The Builder.

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Brisbane.

LIKE all the other cities of Australia, Brisbane, the capital of Queensland, has suffered severely from the crisis of 1893, but on revisiting it after an absence of a few years the effects are not so apparent as in some of the other capitals, for quite a respectable number of new buildings present themselves to the eye of the observer. It is probable that some of these were erected or arranged for anterior to 1893, and so give an air of progress not quite warranted by present conditions. But by all accounts trade is reviving throughout the colony, and an era of quiet but sound expansion is anticipated.

This is all the more satisfactory as, in addition to the crisis, severe floods afflicted the city, and almost the whole of the business section was under water, while in South Brisbane two-story houses were submerged and many swept bodily away. The havoc at the time was great, but of this little or no trace now remains except the temporary bridge and the fine new one, of which half is completed. This is a creditable piece of engineering work, and we understand the whole of it is of Colonial manufacture. When completed, there will be two roadways separating the traffic, both vehicular and tram, and two spacious footways. At the end of each footway is a well-designed arch of stonework.

But to return to the flood. Some amusing incidents are vouched for by good authorities. In Queensland most of the houses are of wood, framed together on the top of piles (locally called stumps) and kept from 4 ft. to 10 ft. above the soil. The stumps are each covered with a galvanised iron dish or "stump cap" to prevent the white ants penetrating into the house framing, and therefore when the flood came many were lifted off their stumps and floated away to sea. In one case a cottage was thus washed away, but another cottage was washed down at the height of the flood, lodged on the vacant stumps and remained fixed there when the waters fell. The owner of the land and stumps claimed the derelict cottage, as it was his freehold. The owner of the errant cottage claimed his home. The dispute was settled for 25*l.*, and each was satisfied, for the one got a new house, and the other could not remove it, whatever legal right he may have had. It is shown at the present time, and the proof of the truth of the story is that the new cottage is somewhat askew, and is 5 ft. larger each way than the old stumps. In another case at Ipswich it is reported that a cottage floated astride the roof of the Congregational Church, and so remained for several hours; and in Brisbane large vessels were floated into and left high and dry in the Botanic Gardens by one flood, and then floated off again by the second. To give an idea of the rush of waters it is also asserted that at Mogil Ferry, about six miles below Ipswich, the waters rose the enormous height of 97 ft.

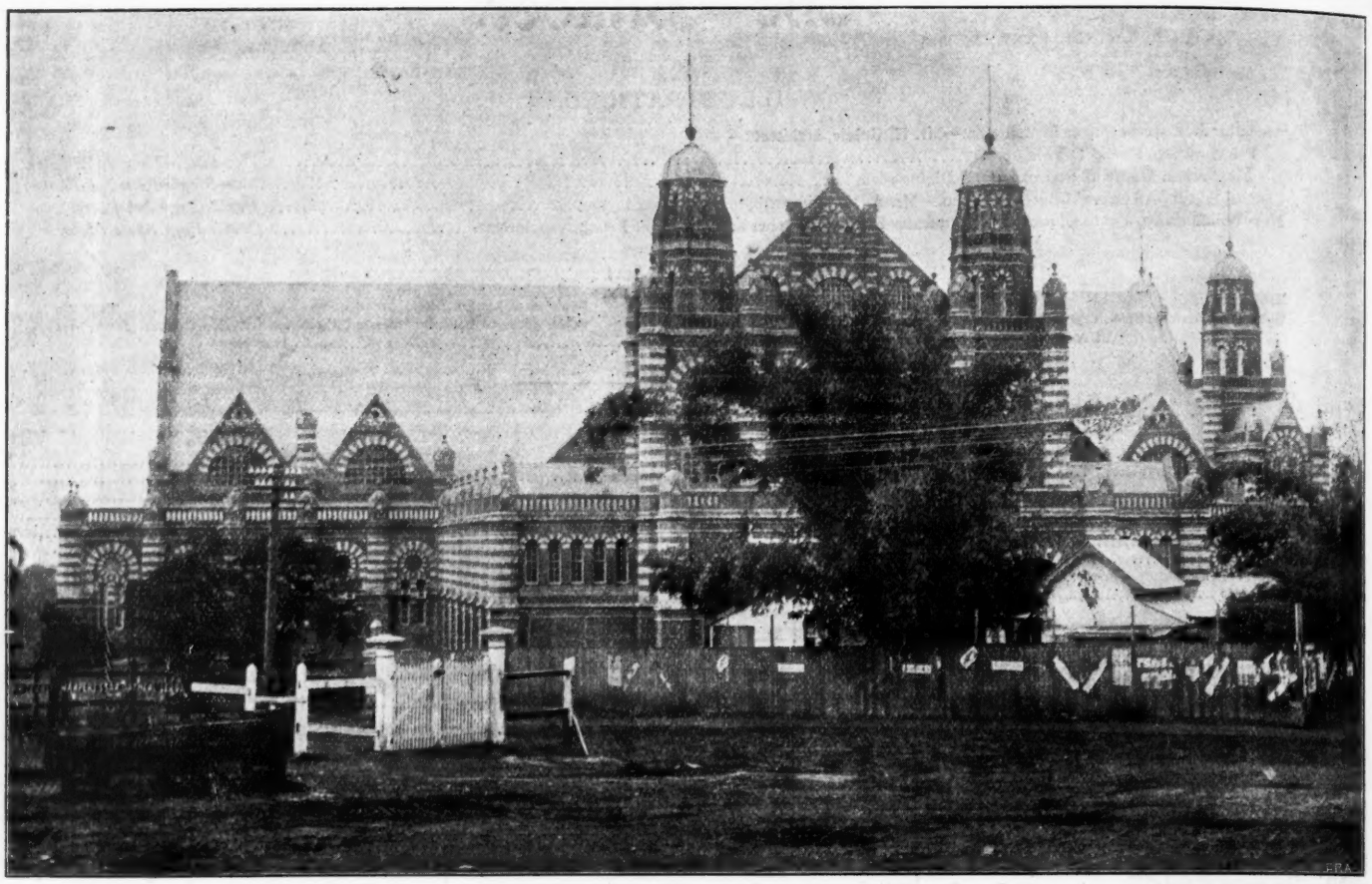
There have been many proposals to cope with future downfalls, mostly by straightening the river and giving a more direct exit to the sea; but this means that Brisbane would be left without a river unless locked, and the expense and trouble of this frightens the Government and the citizens. An essentially modern scheme is to impound the flood waters up among the hills in a vast reservoir, and use it for generating electric power; but the question is, whether the game is worth the candle. Something, however, will have to be done, for as the city grows each great flood will be more destructive. Another, and even more necessary public work, is the drainage of the city. At present earth closets are universal, and a universal nuisance, for the climate is sub-tropical, and the odours pungent. Sydney and Adelaide are both sewered, Melbourne is in the hands of drainage engineers and contractors, so Brisbane will not lag far behind.

But it is time to consider the buildings, and foremost among those of recent date stands the fine pile of Government Offices facing the river and the new bridge. Commenced several years since, these buildings have been gradually extended, till now a good idea can be obtained of the general design and grouping, though a considerable time will no doubt elapse ere the whole block is completed. They occupy, or will occupy, a full city section, bounded by four streets, and are built of an excellent cream-coloured stone, which, so far, is standing well. Italian Renaissance is the style adopted, and it is carried out with correct and, in parts, even refined detail. The most noticeable characteristic is the skill shown in grouping, and the effect of light and shade obtained by simple and natural means. The adoption of the somewhat commonplace arrangement of a rusticated basement, Doric ground story, and Ionic first story is not so satisfactory, but a little freshness is imparted to the upper story by the alternation of small and delicate pilasters in the lower portions, with the usual Corinthian in those that are higher and more accentuated. The centre of the site will be an open court, and this might have been made a charming feature, but probably for reasons of economy it is at present finished off in cement in the most vernacular style. The general sky-line is varied, but there is no striking feature, such as tower or dome, and it is improbable that any such is contemplated. The completed building will, therefore, lack piquancy, though it will probably possess quiet dignity, and suggest its purpose.

Continuing along the street towards the Parliament House, a row of picturesque but rather fussy dwellings, called "The Mansions," is very noticeable from the combination of red brick, white stone dressings and slated roofs, but they deserve credit as showing an honest attempt to treat verandahs constructively. The designer has, however, failed to realise that a good composition cannot be made by combining two totally diverse modes of treatment—the vertical and horizontal. One must dominate. In the present case the arcades of the ground and first floors are strongly horizontal in tendency, whereas the second floor features stick through vertically and make too harsh a contrast.

Turning down Charlotte-street a new building, St. Stephen's Catholic School, catches the eye, but painfully rather than pleasantly, for its light-coloured brick and painted cement dressings are about on a par with the lean and wiry pseudo-Gothic design. It is not even homogeneously bad, for the flanks and rear of the building are treated in the baldest builder's vernacular with wooden balconies of common type.

It is a pleasure to get back to Queen-street, the principal artery of the city, and note another new building of much more satisfactory design. This is the Queensland



Exhibition Building, Brisbane.

Investment Company's offices, a simple composition of three semi-circular arches on the ground story, with Doric three-quarter columns on the first story and Corinthian on the second. The deeply-recessed central archway on the ground story, with its wide, panelled soffit and wrought-iron gates, is particularly good, and the dark woodwork of the staircase hall, though free in design, indicates considerable thought and skill.

Another building worthy of notice is the Queensland Deposit Bank, at the corner of Adelaide and Albert streets. It is, however, cemented, like the majority of buildings in Australia, but the detail is original, and shows a combination of late French Gothic, corbelled window heads and arches, foliated pilasters, the sunk and projecting square bay windows, with round corners, popularised by Mr. Colcutt a few years ago, and large eaves filled with good cast ornament. This eclectic composition is modified and fused together into a fairly harmonious whole on Renaissance lines, and piquancy is secured by the addition of an effective turret at the angle.

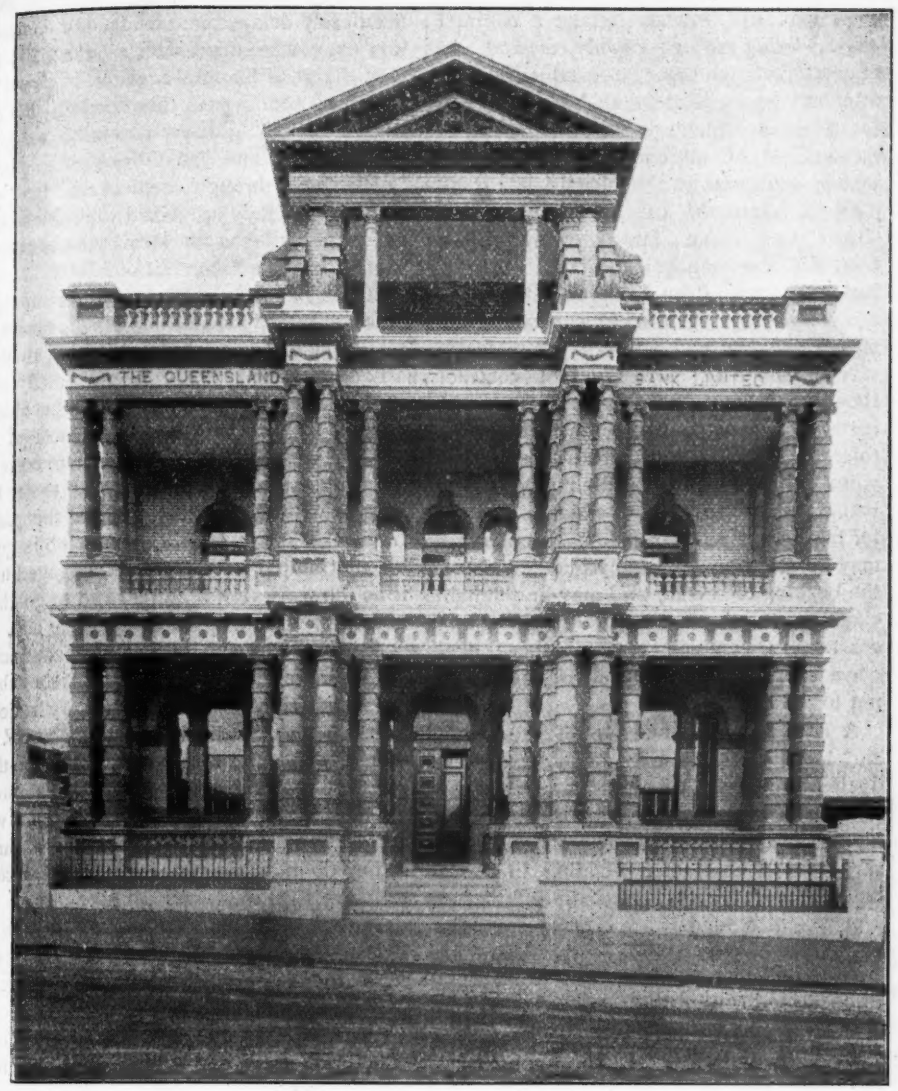
The large, bald, and bare-looking Baptist Church on Wickham-terrace demands attention if only for its prominence, as from its commanding position it dominates the town. It is said to seat 800 and to have cost 15,000*l*. The seats are arranged in a semi-circle, radiating from the platform pulpit; there is only an end gallery at present, but from the two tiers of windows it looks as if galleries all round were contemplated at some future time. In its present condition the acoustics are not good, and as it will probably be many years ere greater seating accommodation is required, it is a very open question whether this mode of extension is desirable, especially in a sub-tropical climate. Externally, the principal feature is a solid-looking square tower, which, however, is wrongly placed, being on the upper side of the site, so that the lines of the building fall away *with* the hill instead of contrasting with it. Plastered within and cemented without, flat and uninteresting in treatment, the building makes one regret that so fine an opportunity has been missed of erecting a striking and yet useful church for Nonconformist worship.

A short distance away, in Herbert-street, is the Servants' Home, founded by Lady Musgrave, wife of a late Governor of the colony. It is a building of irregular plan, carried out in red brick and cement dressings, wooden gables, and high pitched iron roofs. There is a good deal of picturesqueness in the composition, and the large angle block covered with an iron curved roof, and a look-out on the top, is an original feature. Over the central block there is also a flèche of ordinary type. The design is perhaps a little crude and forced in parts, but the general effect is rather pleasing than otherwise. To English eyes the corrugated iron roofs and cement dressings are an eyesore, but in a new country with limited resources one has to tolerate much that in the old country would be deservedly reprobated.

Farther away to the north-east, on a prominent site sloping towards the town and river, the Exhibition Building may be seen, and from a distance the effect is excellent. On nearer inspection, of course, the details show the cheapness that seems inseparable from this class of structure, but it is, nevertheless, a very creditable design and infinitely superior to those of Sydney, Melbourne, and Adelaide. The plan consists of two large naves at right angles to one another, in the shape of the letter T. The wing represented by the upstroke is shorter than the cross one, and is devoted to a very spacious concert hall of somewhat square form, with a gallery all round it, and a large platform orchestra and organ at the rear. The other wing internally is simply a huge, bare brick exhibition hall, but as the flank of this overlooks the sports ground the opportunity has been seized to attach a loggia of dignified proportions, which will form a charming lounge and promenade. Externally the design is well studied, the ends of the nave being well accentuated. At the bottom end of the upstroke of the T there is a fine carriage porch, and at the right hand end of the cross stroke are the entrances to the Exhibition hall. Gables of moderate size diversify the flanks, but the roofing is the universal corrugated iron. A modern treatment of round arched Romanesque is the style that has been adopted, though in parts some crudities of Gothic origin make their appearance. But on the whole the building is one of which the inhabitants may be proud.

Returning to the town viâ Fortitude Valley, the branch office of the Queensland National Bank, with its bold loggia treatment of the front, is worthy of notice. There are two lofty stories of three bays carried up in red terra-cotta of very good quality, and the centre bay is carried up one story higher. The columns and piers are rusticated and fluted. The rustications to the columns are circular; if these had been made square, and the flutings omitted, the whole design would have gained materially in strength. The topmost story is the least satisfactory, looking weak under its heavy pediment. The main face of the building behind the loggia is carried out in cream-coloured brick, with cement dressings, but the flanks and rear are absolutely bare and bald, with no attempt at treatment whatever.

A little farther on, at Eagle Farm, a genuine Japanese house is to be seen, for it was designed and erected in the land of the Rising Sun, taken to pieces and shipped to Brisbane, and there put together again by



Queensland National Bank, Brisbane.

Japanese workmen. It was closed up at the time of our visit, as the owner was away, so we cannot tell what the interior may be like; but the exterior suggests a purely Australian rectangular plan with a detached kitchen. The all-round verandah was closed in by sliding shutters painted white, reaching to within about 2 ft. of the plate, this space being filled by lattice-work and glass. The verandah roof stops against the main walls, and the central block has a slightly higher roof. The roofs are quite straight, instead of being curved, but are covered with brown tiles, something like the Roman in shape but angular. The hips are formed with several layers of tiles and hence stand up prominently, while the lower ends are covered with what looked like repoussé bronze ornament of fine design. The eaves tiles are also beautifully modelled. Altogether, the house is a most refreshing change from the vernacular Brisbane dwelling, and it is to be hoped its artistic influence may be widespread, though, judging by the remarks one heard, it does not seem to have made much way at present.

Hence one gets back to the centre of the city, passing the Custom House on the way, and regretting that its fine dome has not a better substructure. Although passable in design (it is a two-storied building with fluted pilasters carried up the whole height), it is entirely coated with cement of the dirtiest and dingiest hue. Had it been in stone, and the details somewhat modified, it would have formed a picture worth looking at as one sails up the river from the sea. Brisbane is, however, progressive. It has in many of its buildings done well, and since we last made a critical round of its streets it has done better, so that in its future buildings we may hope it will do better still, and become architecturally worthy of being the capital of a great colony.

HOW TO BECOME A SUCCESSFUL CONTRACTOR.

BY ALEXANDER MACLACHLAN, ASSOCIATE MEMBER INST. C.E.

SUCH is the amount of competition in contracting nowadays, and the complexity, intricacy, and great extent and diversity of work now attempted, that the art of successful contracting has become quite a scientific profession, requiring a liberal education, and calling forth all the best energy, knowledge, experience, sagacity, and skill to be found in the highest ranks of the enterprising contractors of the present day. A few hints from one who has had twenty-five years' experience of contracts and contractors may be useful to the young intending contractor.

The writer may be allowed to begin by observing that a good introduction into contracting on one's own account is to be a timekeeper, clerk, or cashier with a contractor; especially if this is coupled with the previously acquired knowledge and experience of a useful trade, such as a joiner, mason, or blacksmith.

An energetic, persevering young man, employed with a contractor for railways, waterworks, or docks, has a capital chance of successfully learning contracting. Many of the best known and largest contractors have had in this way their first training. Timekeepers, clerks, or cashiers get to know so thoroughly the ways, manners, and methods of workmen, their rate of wages, and their capabilities, and also of the prices of materials, plant, &c., that, although they are called timekeepers or clerks, yet they fulfil many duties pertaining to those managing the business of a contractor, and so gradually gain such a knowledge and experience as enables them, with a little capital and credit, to start for themselves.

There are many successful contractors who have once been joiners, masons, or blacksmiths, and some who have been in trades not at all constructive, who, through having a genius for such work, make a fair competency out of contracting. Some who have been architects and civil engineers succeed better as contractors, their experience being of great service to them. These last, it can well be understood, if they do not make much of a fortune for themselves, yet from their knowledge of construction and materials, turn out good substantial work for their employers.

The general knowledge necessary for the young intending contractor is extremely wide and varied. Many contractors send their sons, after they have passed through the university, for a year or two to civil engineers' offices, in order to learn a little of the technique of their profession or calling. This experience is of great use to young contractors in the future. They have a chance of getting a notion of setting out of work; of surveying and levelling and the use of instruments; and of plans, specifications, estimates, schedules of quantities, contracts, tenders, &c.

The whole knowledge required by the successful contractor may be summed up in: a knowledge of men, materials, and prices. He should be a man of great perseverance, energy, and endurance; honest, stronghearted, and strong-minded; not to be set aside from his purpose by any number of obstacles. With a good name and possessing the above admirable qualities, he will be trusted with the capital of others and be given credit, which to the young contractor, unless he has a fortune of his own, is absolutely essential to him in making a first start in business. He must have a knowledge of all the latest kinds of machinery and plant, working economically, both as to price and saving of labour; of setting out of work, surveying, and levelling; of plans, temporary works, hoarding, fencing, staging, scaffolding, centring, roofs, sheds, workshops, stores, offices, and other buildings; of cofferdams and temporary bridges and roads; of the prices of implements and tools; of barrows, shovels, picks, pinches, jack-screws, rails, chairs, fish-plates, bolts, keys, points and crossings and sleepers; of tank-engines, trucks, wagons; of steam and hand-cranes, steam navvies, excavators, steam pumps, hand-pumps, pulsometers, turbines, centrifugal pumps; of stationary engines and boilers, and piping, and pile driving engines; and of dredgers, punts, lighters, &c. He must have a knowledge of materials, of concrete, rubble masonry, ashlar, and brickwork; of timber, planking, and creosoting; puddled clay, iron and steel work; freestone and flagstone, whinstone, granite, cement, lime, sand, and gravel; asphalt and

pavements, roads and streets, road metalling, macadam, causeway setts, kerbs, channels, wood-paving, drains, pipes, sewers, gully traps, manholes, ventilators, gratings, and covers.

He should know something of horses and what they can do, and of the cost of their upkeep, stabling, harness, &c.; of lorries, carts and carting, and how to buy and sell contractor's plant, materials, and stores.

Above all, he requires to have a knowledge of men and their ways. Not only of the workmen and officials in his employ, of the individuals comprising the companies, boards or trusts, of whom he has the contract, and of the staff of civil engineers or architects superintending his work; but chiefly of the foremen, or clerks of works under them. So much depends on the gentlemen last mentioned that the contractor would do well to enquire carefully who are to be placed in charge of the work in that capacity, as so much depends on their treatment how a contractor will come out of a contract. Some men are needlessly rigorous and exacting, and may ruin an honest contractor willing to make a good job. He must also have a knowledge of the engaging of workmen, and of the proper supervision of men in their work, and know how to keep them at it, and to retain the best workers.

To enable the young contractor to successfully fill up a schedule, in order to send in a tender for work, he should know all about quantities and prices. He should therefore study the taking out of quantities, study decimals, duodecimals, and mensuration, prime costs, rates and prices, wages and materials, and allowances and non-allowances in measurement of quantities of work. He should know something about railway rates, shipping rates, water rates, and of risks, lighting, watching and other contingencies necessary to allow for in making up tenders.

In sending in schedules, great care must be taken to ensure that nothing is forgotten to be inserted; that sufficient and proper rates are given; that the quantities are correctly stated, and that all allowances are enough, and that the extensions are correctly made, and added up, and the total amount of the tender just what the contractor can comfortably do the work for. So many mistakes which are merely clerical are made in tenders, often resulting in the loss of thousands of pounds, that too much caution cannot be exercised to ensure correctness.

He should know something of the law of contracts, and of the many conditions and clauses and restrictions under which he is obliged to execute work; of alterations and additions; of sub-letting, upholding, payments, assignment of plant in case of bankruptcy, delays or stoppages, disputes, arbitrations, cautioners, and how cases are conducted in court; of insurance of plant and of workmen against accidents, compensation, masters' liabilities for injury, protection of machinery, &c.

He must have a knowledge of the different materials found in the several localities in which he may carry on a contract; of the various quarries, and of what kind, quality, quantity, and materials they yield; of the brickworks, pipe-works, engineering shops, factories, timber-yards, coal depots, &c., of the districts or nearest places.

It is often said nowadays that an honest contractor cannot make a living, and that contractors, who regard their reputation for good work, can now rarely take a contract; tenders being now so cleanly cut, and rates of materials so low. Consequently, contractors wishing to make an honest job, and to obtain a decent profit and living, are thrown out of all competition by others taking contracts at ridiculously low prices. This is often the case, but not always. There are some large contracts that by judicious management turn out paying concerns, even although the rates are very low. Contractors possessed of strong sagacity and foresight often foresee ways of making money out of contracts, though the rates are very moderate. For instance, ashlar freestone may be priced tolerably high in a contractor's schedule, and when doing the contract, he may get excellent stone on the ground, which is also paid for taking out as excavation. Similarly, he may be required to supply puddled clay for the backing of a wall, and may find suitable clay on the site of the works. When the contractors can see none of these likely ways of recouping themselves, they ought not to send in tenders.

A contractor's knowledge of the ground and locality can go a long way towards reducing a tender. A knowledge of access, of railway rates and roads, and of neighbouring works and manufactories—all are necessary to the contractor sending in a safe tender. Want of local knowledge often keeps a contractor's tender from being accepted. He either sends in a tender absurdly low or far too high for him to have a chance of success. It is not always the lowest tender that is accepted. The lowest tenderer may find that he is far too low with his estimate, and wisely retreats before it is too late. The highest tender is sometimes double the lowest that is accepted—double because of the want of skill or local knowledge of the tenderer, the want of a proper idea of the local prices of materials, or of the wages given in the locality. For instance, in regard to sand, he perhaps thinks the kind found in the locality will do, and prices accordingly; he finds that to be up to the specification quality he has to cart it from five miles off, or bring it a long distance by rail. The same with stone; local quarries, he afterwards finds, cannot supply the amount required for the contract, or the quality is inferior, or the prices are unapproachably high, so that he has to open another quarry miles away, besides making railway connexions to the main line.

When a contractor gets to be known as one who turns out good, substantial work—that he is honest, energetic, and enterprising—contracts will be given him almost at his own prices. When he is agreeable and easy to deal with, amicably settling disputes, and correctly and expeditiously doing his work, he has an immense advantage over the contractor who never does a job without blundering, or entering into needless disputes, or making himself disagreeable in some way or another.

On the other hand it must be said that contractors have many just grievances, which with greater care, forethought, and caution, and the exercise of greater skill and judgment on the part of those who superintend them in their work, might be greatly reduced. Contractors are often compelled, by young, incompetent assistant engineers or architects, to execute work in what they know very well is the wrong way for such work to be done; this often causes the work to be needlessly delayed and brings the contractor into useless expense, which he cannot very well charge in his final account.

Before sending in his tender, the contractor should always carefully read the specification and conditions of contract. Some find, through neglect of this precaution, that they are asked to do such work, or come under such stringent restrictions, that all profit is taken out of a job.

If occasion requires, a contractor should be able himself to measure up his own work, no matter how complicated or difficult, to check all quantities and accounts, and certify as to their correctness. He ought to be able to make estimates of the probable cost of any work he may seek to undertake; to correctly order all materials required, and to see that he gets what he ordered, and at the proper time. He ought to see, when a job is going on, that he has as many men engaged upon it as the work well requires, and to go ahead and carry it on without delay to the end.

As to the profits or incomes contractors derive from their contracts, this is a subject on which they are naturally very reticent. Some have confessed to making 1,000*l.* out of a 4,000*l.* job; and some, only one-third of the contract sum satisfies as profit. Others, again, are generally content with ten per cent. on each contract, and at times, if they do not lose, but make five per cent., they are tolerably well pleased. Five per cent. on a large contract, say of 300,000*l.*, is 15,000*l.*, which, if the contract takes five years to do, means, while it lasts, 3,000*l.* a year clear profit from one job alone.

As a rule, there is always plenty of room in any profession and calling for honest men who are not afraid of work, and contracting is no exception to the rule; and honest men with a little capital and determination, patience and perseverance, can still make something even out of contracting, and earn a livelihood and, perhaps, something more. When the possibility of an honest contractor ever existing is mentioned in certain quarters, the idea is often met, as the novelists say, with "derisive laughter," and cries of incredulity and unbelief. It may, however, be stated in conclusion that the writer has found many honest and conscientious contractors, who did their work most faithfully, and to the entire satisfaction of the engineers in charge. It is to be hoped that rising young contractors of the future will follow in their footsteps.

NOTES.

Malmesbury Abbey.

The Bishop of Bristol recently held a conference with the Vicar and Churchwardens of Malmesbury Abbey, and the Mayor of Malmesbury, in regard to the undertaking of the repair and preservation of the Abbey, when it was agreed that the following work ought to be undertaken without delay: (1) to make sound and put in thorough repair the six bays of the ancient fabric now used as the Parish Church; (2) to render the interior more dignified as a place of worship (we are not informed what this proposal includes in detail); (3) to protect the ruined portions from further decay. The first and third proposals, it may be said, are of national interest, and public support and subscription towards them may be looked for; the second is more of local interest. Two other proposals, viz.,

to build out a chancel, and to rebuild the three western bays of the nave which are ruined, were negatived at the meeting, though it appears that it is intended to procure an estimate as to the probable cost of these works. As to whether these ought to be carried out or not is a question which depends mainly on the actual requirements of the modern congregation. On any other but practical grounds they would be indefensible. If however, the congregation is increasing and is too large for the existing portion of the nave, it seems better that the ruined portion should be rebuilt; but it is a kind of operation only to be undertaken on this ground and after careful consideration, so it is just as well, at all events, that it should be postponed for the present.

Buildings for the Paris Exhibition.

THE Minister of Commerce has finally approved of the design submitted by M. Mèwes, the architect, for the building for the congress and exhibits of the Social Economy section, to be erected on the Cours la Reine, with a front towards the river. He has also approved of the designs for the palaces for Forestry, Field Sports, ond Fisheries, and for those of Navigation and Horticulture. The two former will be built on the quay on the left bank of the river, on either side of the Pont d'Iéna. The architects, MM. Tronchet and Rey, have designed effective models for these, with façades towards the Seine, broken up by projecting loggias. M. Gauthier, who has designed the Horticultural building, has contrived to give to this immense greenhouse, for such it essentially is, a certain degree of architectural character.

The Architectural Association Lectures.

THE curriculum of the Architectural Association for session 1898-99 has just been published, and we are glad to note that excellent educational facilities continue to be offered to architectural students, and that the work of the last session is to be carried on in the main by the same able lecturers. The list of Visitors consists of over twenty of the most accomplished architects of the day, and students are fortunate in having an opportunity of working under their guidance. The lectures to be delivered at the ordinary general meetings of the Association are likely to be of more than ordinary value and interest, as will be seen from the following list:—"Excavations at Thebes," by Mr. J. E. Newberry; "Arts and Crafts," by Mr. H. Wilson; "Oriel and Bay Windows," by Mr. Paul Waterhouse, M.A.; "House Planning from the Æsthetic Point of View," by Mr. H. H. Statham; "The Position of Architecture Among the Arts," by Mr. E. T. Hall; "Ancient and Modern Buildings in Palestine," by Mr. Beresford Pite; "Stained Glass," by Mr. Christopher Whall; "Colour Decoration," by Mr. Cole A. Adams; "Public Baths," by Mr. A. Saxon Snell; "Reflections on the English Renaissance," by Mr. Reginald T. Blomfield; "Modelling as Applied to Architecture," by Mr. F. W. Pomeroy; "Specifications," by Mr. F. W. Macey; and "Soil and Aspect in Relation to the Dwelling-House," by Dr. G. V. Poore. It is to be hoped that the attendances at the meetings will be large; they certainly should be.

Hampton Court and Wolsey's Leaden Pipes.

THE Office of Works are digging up, presumably for the sake of the silver they contain, the leaden pipes laid by Cardinal Wolsey for supplying his palace with pure water. For that purpose he collected the springs at Coombe Hill, about three miles distant, into conduits, with a junction near Kingston Lodge, whence the water ran in two pipes laid 3 ft. 6 in. below the ground to Surbiton, being conveyed across the Fair-field, beneath Hogg's Mill stream and through Woodbines, and thence across the bed of the Thames at a spot opposite the Swiss Cottage on the left bank, 780 yards above Kingston Bridge, and so through the Home Park to the Palace, wherein were many "baynes," or baths, and other conveniences. The rain and other refuse water he carried into the Thames through brick sewers, 5 ft. high and 3 ft. wide. The drainage served until 1871, when, in compliance with the requirements of the Thames Conservancy Board, a new system, withdrawing the outfall from the river, was devised. Five years afterwards, their sources having become contaminated with sewage from an adjacent farm and some buildings near Kingston Hill, the conduits were discontinued, and a new supply for the Palace was drawn from the Cardinal's (or Queen's) River, a branch of the Colne, the drinking water, separately carried, being filtered at New Hampton. Wolsey's leaden pipes were moulded in lengths of about 25 ft.; the seam and joint were made by an overlay. The two main pipes are nearly 4 in. in diameter, with a bore of about 2½ in. Their weight varies from 15 to 16 lb. to 1 ft.; it is estimated that about 250 tons of lead were used at a cost of 50,000*l.* (present money). Three conduit-houses are yet standing, but the old red-brick plug-house, near the footbridge between Denmark and Grange-roads, has been pulled down. The fall to the final trap (in front of the Palace) from the highest, or Gallow's-hill, conduit is 126 ft.; from the Coombe and Ivy conduits it is a few feet less.

Liability of Public Bodies.

THE case of Penney *v.* The Wimbledon Urban District Council, which is reported in the current number of the "Law Reports," may be regarded as a useful reminder of the legal position of public bodies in respect of work which they let out to contractors. In this instance the Wimbledon District Council had employed a contractor to sewer, level, and pave a road which was not repairable as a public road, but which the Council had thought to require the owner to repair, &c., and which, as he refused to do the work, the Council were entitled to take in hand. The contractor, in the course of carrying out his contract, turned up the surface of the road and left the material in heaps. The plaintiff fell over one of these heaps and was injured. Mr. Justice Bruce held that the District Council was liable for damages solely because they had some control over the work; and secondly, because, having employed a contractor to do work on a road which they knew was being used by the public, they had a duty cast on them to see that proper protection was afforded to the public. The case is a good instance of the position of public bodies, though there can be no question that the actual legal principle was finally decided in 1896 by the Court of Appeal in the case of Hardaker *v.* The Idle District Council. The case again goes back to even broader principles, namely, that a person who orders work to be executed from which injurious consequences to his neighbours may be expected to arise must take all proper precautions. We reach, in fact, the common-sense maxim that a man must do his work without negligence.

Obstructions by Public Works.

THE legal year which has just concluded has given us in its last days, in Martin *v.* The London County Council, a decision of some interest. The plaintiff sued the County Council for damages, because, as he said, he had suffered damage by reason of the Council having blocked up a street for the purposes of certain work, which street was at the end of that in which the plaintiff had his shop. The weakness of the plaintiff's case lay in the fact that there was not only no evidence that the County Council had carried on their work in an unreasonable manner, but also that he had not shown that he had suffered any special, direct, or substantial damage. In other words, public improvements cannot be done, as a rule, without some inconvenience to the public generally. Mr. Justice Kennedy distinguished this case without difficulty from a previous one, in which a hoarding had been kept up after it had ceased to be necessary. This comes to the same thing as saying that he could see no evidence of negligence. While it is no doubt desirable that public bodies should not be liable for damages when they are doing public work, unless a very clear case of having done special damage and acted unreasonably and negligently is made out, it must also be admitted that oftentimes the public is put to greater inconvenience than is necessary.

Restrictive Covenants as to Buildings.

IN some ways it is difficult to follow the conclusion of Mr. Justice Stirling, in the case of Holford *v.* The Acton Urban District Council, but we will leave it to speak for itself. The Acton Local Board acquired land in High-street, Acton, for the purpose of widening the street. After this had been done some surplus land remained which had to be sold, and this was put up in several lots. The plaintiff purchased lot 2, and lots 3 to 7 were not sold, and subsequently the District Council, which had succeeded to the position of the Local Board, decided to erect a fire-engine station on lots 4, 5, 6, and 7. This seems straightforward enough. But the ninth condition of sale, when the plaintiff bought his lot, stated that the purchasers of lots 3, 4, 5, and 6 shall in their respective conveyances enter into covenants with the vendors to erect within two years from the day of sale, upon each of the lots bought by them, a shop and dwelling house of not less value at prime cost than 800*l.* To the ordinary mind this would certainly seem to imply that shops such as described should be built and maintained on the property. Mr. Justice Stirling, however, was of opinion that a purchaser might after the shops were built throw them into one building and use it for a purpose other than a shop. Therefore, he reasoned that he ought not to consider this a negative stipulation, and that accordingly the District Council were at liberty to build a fire station on these lots. We confess the reasoning seems too subtle, and we think

that the decision is rather a dangerous one, since a person might well buy property believing it would ultimately be in a street of shops, and he might find himself in a thoroughfare that was not a business one at all.

No. 47, Leicester-square.

Mr. E. W. Wimperis is appointed architect for the new premises which Messrs. Puttick & Simpson are about to build upon the sites of Nos. 47, 47½, and 48, on the west side of the square. Sir Joshua Reynolds bought No. 47 in 1761, removing thither from No. 5, Great Newport-street, which still stands, having been originally the central portion of a house since subdivided into Nos. 4, 5, and 6. He spent 1,500*l.* in improvements of the house. He built some stables, and a corridor and painting-room on the mezzanine floor at the rear. It is commonly said that the sale-room was Reynolds's painting-room, but that, we are authoritatively informed, is not the case. The painting-room, octagonal on plan and 15 ft. high, was removed for the large apartment built about sixty years ago by the Western Literary and Scientific Institution, and converted for their own purposes ten years later by Messrs. Puttick & Simpson on their removal from Piccadilly. Reynolds remained here until his death in 1792, when the house was occupied by the fifth Earl of Inchiquin and first Marquis of Thomond, who, in 1762, had married Mary Palmer, Sir Joshua's niece. Apart from its associations the house presents but few features of interest. The carved marble mantelpieces in the dining-room, now divided into offices, on the ground floor, and in the drawing-room above, together with the carved newels and the railings of the stone stairs up to the first floor, will be preserved. The stair-railings, of iron, and square in section, are bellied out to afford more space for the ladies' hooped dresses. The property belongs to the Tulk family who have granted a lease of the site. The estimated cost of the new buildings is about 18,000*l.* When Reynolds settled in London on his return from Italy in the autumn of 1752, he occupied a house by St. Peter's-court, opposite May's-buildings, St. Martin's-lane, which he quitted for Great Newport-street.

Quarry Waste and Portland Cement.

Our attention has recently been called to the neglect of quarry owners in this country to turn their rubble limestone and limestone waste generally to profitable account by employing it in the manufacture of Portland cement, or at least a serviceable building cement. The utmost the average freestone owner can be got to do in this direction is to have samples of the stone burnt to see if it will make a good lime. One burning usually suffices to convince him either one way or the other. It hardly ever occurs to him that if the material fails to turn out a good rich lime the stone may yet be valuable for making cement. It very frequently happens that substantial clay deposits occur in the vicinity of the quarry, which, together with the limestone waste, might be employed in experiments for producing the cement. There is, of course, some difficulty in arriving at the proper proportions of these materials to be mixed together to get the best results. The limestone and clay should be carefully weighed (not measured) and several sets made up in differing proportions, the effect of the burning on each being noted. The sets may be sent to a properly qualified cement-burner, who will probably be able to give a hint or two to the quarry owner. The main cause of the failure of the experiments to produce a good cement is usually the want of proper preparation of the samples treated. Both the limestone and the clay must be ground exceedingly fine passing through several sets of stones for the purpose; when finished an impalpable mud should be the result. Then the cement-mud should be carefully dried before being burnt. After that has been accomplished, and good clinker produced, the latter has still to be ground very fine before its qualities as a cement can be properly gauged.

Decoration of the Panthéon, Paris.

The interior decoration of the Panthéon at Paris will probably be completed in the early part of next year. The only portion now remaining to be completed is that which was entrusted to M. Puvis de Chavannes after the death of Meissonier, and which will be on the opposite wall to the composition of M. J. P. Laurens representing the death and obsequies of Ste. Geneviève. M. F. Humbert has just completed his paintings intended for the chapel of Ste. Geneviève, which include four compositions — "La Divinité et La Consolation," "La Famille et La Prospérité," "La Patrie et La Victoire," and "L'Humanité et La Devouement." In the centre of the chapel, in the place formerly occupied by the altar, will be placed an allegorical group in marble, by M. Mercié, representing "the Generals of the Republic"—a change certainly highly characteristic of modern France.

Proposed Municipal Buildings, Reigate.

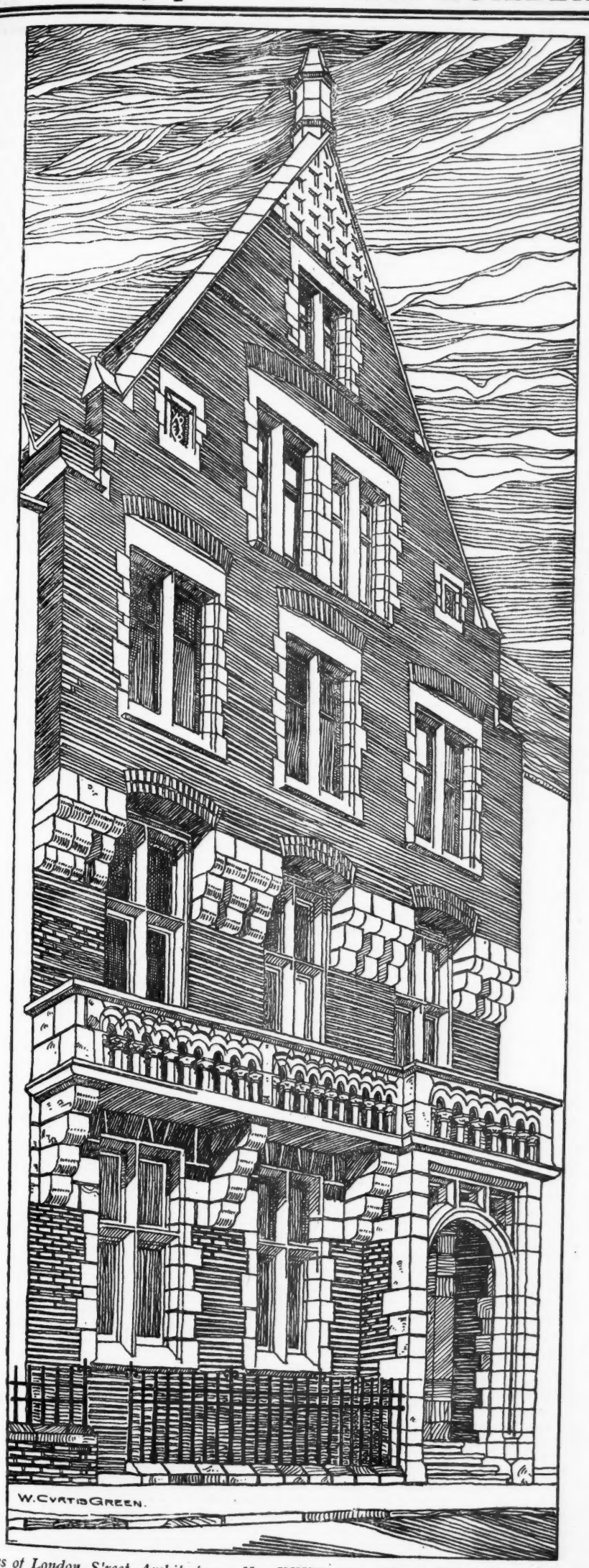
The advertisement of the Corporation of Reigate, printed in our advertisement columns last week, contained no suggestion of the absurd and preposterous conditions of competition referred to in our correspondence columns. The Corporation are prepared to spend 15,000*l.* on "the erection of municipal buildings, fire station, police offices, &c.," and, in order to secure designs, premiums of 50*l.*, 30*l.*, and 20*l.* are to be given respectively for the three designs which the "assessors" shall consider best in order of merit. Even if all the other conditions were satisfactory this in itself would be enough to deter a good many architects from competing, but when, in Condition 5, we read that the three successful designs shall become the property of the Corporation and that their authors shall have no further claim upon them, we feel that to the Corporation the response to their advertisement will be far from satisfactory. In that event the "assessors," who appear to be the Council, do not bind themselves to give the three premiums before-mentioned, "but only such as they may consider merited!" From another condition it will be seen that the Council, who do not guarantee to carry out any design, reserve to themselves the right "to modify, combine, alter or amend any of the prize designs which they may think fit, and in the event of any of the designs being carried out, no further payment will be made to the author." We should advise the Corporation to try again, for no qualified and self-respecting architect will compete unless the conditions are very much modified.

ARCHITECTURAL SOCIETIES.

Leicestershire Architectural and Archæological Society.—At the bi-monthly meeting of the Leicestershire Architectural and Archæological Society, held at the Library, Old Town-hall, Leicester, Major Freer, hon. secretary, reported that a very successful excursion had been made to Bath and Bristol on June 30 and July 1 by twenty-six members and friends. He also read the correspondence that he had had with reference to the Roman pavement. The Town Clerk had informed the members that the Borough Authorities would do all in their power to keep the Roman pavement from being ruined by the wet. Major Freer also reported the discovery of a fresh Roman pavement near St. Nicholas' Church, at present only partly laid open, and asked the Society to pass a resolution earnestly requesting the owners, Messrs. E. Shardlow & Simpson, to preserve the pavement *in situ*. This was agreed to. Colonel Bellairs, hon. secretary, read the following notes on the Trinity Hospital in the Newarke, exhibiting a plan of the ancient building:—"Some time ago I read a paper before this Society on the Trinity Hospital. I wrote it in anticipation of what is now decreed, that is, the destruction of the building, which, though much mutilated and altered, is the very extensive remains of one of the finest fourteenth-century halls ever existing in this country; and the recent destruction of the west end of the building has revealed the ancient plan very clearly. It was a large hall, consisting of a nave and side aisles, the nave being divided from the aisles by an arcade of sixteen arches on each side. At the east end was a chapel (or chancel) divided from the nave by a fine large chancel arch and screen. The side aisles were also screened off and divided into separate rooms for the hospitallers. At the west end were, as is usual in all old mediæval halls, three doors leading to the kitchen, butteries, and cellars, and over these doors was the minstrels' gallery—as is still seen in our Old Town-hall and many other old halls at our universities and elsewhere. I have never heard of a hall of the grand dimensions of this, which was a princely gift of the Lancastrian branch of the Royal family of England to the town of Leicester. This hospital was well endowed and cared for till the revenues were confiscated at the Reformation. As I mentioned in my first notice, this building was said by the misleading, if not false, inscription placed over the modern door, to have been rebuilt by George III., who, I dare say, never heard of it, but it was only altered and the floor raised about 2 ft., and an upper story constructed for the women. At the same time two arches adjoining the chapel or chancel were taken down and destroyed, and the space converted into an open room something like a false transept, which forms with the chancel the present chapel. If the brick and mortar work of George III. were taken down, and the upper story removed so as to leave the arches and stonework visible and intact, it would show what it was, and sketches, drawings, and photographs could be taken. And better still, if it could be restored to its original state and converted into an extra museum, which will very soon be wanted, it would be one of the most interesting objects to be seen in Leicester. The present pointed doorway entrance to the chapel is original, though the mouldings have been destroyed—the ground outside having been raised about 3 ft., and inside 2 ft. When excavations are made no doubt the original floor will be discovered." Major Freer moved that Colonel Bellairs be authorised, on behalf of the Society, to take such steps as may be necessary to preserve drawings and plans, &c., of the old hospital. Mr. Hartopp seconded, and the motion was carried.—*Leicester Advertiser.*

New Hospital, Alford, N.B.—A new hospital for infectious diseases has just been completed near Alford, Aberdeenshire, from designs by Messrs. Jas. Duncan & Son, architects, Turriff.

Drinking Fountain, Stoke Bishop.—The drinking-fountain erected in the village of Stoke Bishop to commemorate the Queen's Diamond Jubilee was opened by the Duchess of Beaufort on the 15th inst. The structure occupies a three-cornered site fronting the main road in the village, and the work has been carried out by Messrs. Cowlin & Sons, under the direction of Mr. C. A. Rowley, architect.



Sketches of London Street Architecture. No. XXVII.—The King's Weigh House Parsonage, Thomas-street. Mr. Alfred Waterhouse, R.A., Architect.

KING'S WEIGH HOUSE PARSONAGE.

THE house front in Thomas-street of which we give an illustration is that of the minister's house attached to the King's Weigh House Chapel, which was designed by Mr. Alfred Waterhouse, R.A., in 1889. Like the rest of the buildings, it is faced in red bricks and buff terra-cotta, and was built by Messrs. Shillitoe, of Bury St. Edmunds, the terra-cotta being supplied by Burmantofts, Limited.

THE ARCHITECTURAL ASSOCIATION:

TWENTY-NINTH ANNUAL EXCURSION: LEAMINGTON AND NEIGHBOURHOOD.*

Wednesday.

THE third day of the excursion looked rather threatening for rain in the morning, but the excursionists were fortunate in suffering no more than the loss of the sunshine, for which the water-colourists of the party yearned, as although the sky was very overcast, the rain did not come down. The railway was utilised to get to Stratford-on-Avon, from which a long drive took the party to Honnington Hall, where the chief attraction was the Queen Anne house, now the residence of Mr. Frederick Townsend. Several alterations were made in the house towards the end of the 18th century, as is evidenced by an engraving of "Honnington Hall, in the county of Warwick, the seat of Joseph Townsend, Esq., M.P.," by Samuel and Nathaniel Buck, 1731. The alterations were made under an architect of the name of William Jones, and completed about 1765. The octagon drawing-room, the projection of which is shown to the left of the illustration in our issue for August 6, was then formed on the south-west front, with a portico in front of it, which has, however, since been moved and set up to form an open loggia in the garden. Under William Jones several new plaster ceilings and wall decorations were inserted which are excellent in design and execution, although decidedly French in feeling and rococo in motif. The estate of Honnington, or, as it is called in the Domesday Book, "Hynitone," at one time belonged to the monks of Coventry, but was for many generations in the possession of the Parker family, by whom the existing house was built. The house is a charming example of the later English Renaissance of early eighteenth century, or possibly even late seventeenth century date, and received much admiration from the members of the party, who seemed delighted with its bad proportions and coarse detail and sham windows. There is also a small formal garden with fountain, which, of course, came in for a considerable share of attention. The north-east or approach front is that to which the original designer of the house appears to have given most attention, together with the garden front shown in our illustration of August 6. The circular winged wall with columns and arches, which screens the stables on the right, was probably intended to have been balanced by a similar construction on the left, but this does not appear to have been carried out.

The church, which is in close proximity to the house is very interesting, and was rebuilt, with the exception of the tower, at the end of the seventeenth century by a member of the Parker family of Talton, Shipston-on-Stour. The interior is very pleasing, the nave arcade in particular being worthy of study. A new lych-gate, designed by Mr. Guy Dawber, adds to the attractiveness of the church and received its due measure of admiration.

So enamoured were the members of the charms of the later English Renaissance that the whole day was practically devoted to Honnington House, it being decided not to carry out the programme by visiting the village of Darlinscote. A short halt, however, was made at Tredington Church, dedicated to St. Gregory, which is mainly Transitional in character, with thirteenth-century chancel, and tower and spire, the steeple being of well-proportioned and graceful design—much of the tracery of Early Decorated character in the church, and particularly in the chancel, being especially beautiful. The clearstory of the nave is Perpendicular, together with the nave roof, on which traces of colour still exist, and other interesting Perpendicular woodwork is seen in the very good collection of fifteenth century

* Continued from last week.

pews. The Perpendicular work was probably carried out during the rectorships of Richard Cussy, whose brass bears the date 1427, and Henry Simpson, date 1482. A chained Bible and eighteenth century chair are amongst the curiosities in the vestry, and a good seventeenth century pulpit is amongst matters worthy of study.

Thursday.

Again the railway was utilised, and train taken to Solihull, from which station the party drove to the charming village of Hampton-in-Arden, where the first visit was paid to the church of St. Mary the Virgin and St. Bartholomew, formerly belonging to the abbey of Kenilworth. The chancel was built in the twelfth century, the nave and aisles in the thirteenth, the clearstory and tower in the fifteeth; but to the visitors the most interesting fact was the restoration which was carried out in 1878, under the direction of the late W. Eden Nesfield, at a cost of 3,543*l.*, and, as might be expected, is as admirable an example of what a church restoration ought to be as can be desired. The design of the organ case, built in 1884, deservedly received much admiration.

Amongst the noteworthy objects of interest in the church are a stone seat along the wall, the earliest form of church seating, a "Heart Shrine" of a Knight Templar, consisting of an Early English trefoiled arch in the south wall of the chancel, enclosing an angel bearing a shield with two lions passant, the arms of the Erdington family. There is also a mutilated brass, which is probably that recorded by Dugdale as commemorating Richard Broke, Bailiff of Hampton-in-Arden, and Isola, his wife.

Close by the church and adjoining the churchyard is an old half-timbered farmhouse with a porch, surrounded by traces of a moat, which was formerly the manor house of the Ardens, and which proved the attraction for the water-colourist.

From the church the party proceeded to Hampton House, the residence of the Right Hon. Sir Frederick Peel, P.C., K.C.M.G., by whom the visitors were received and shown the house. This was built originally by Sydney Smirke, but considerable additions and alterations were made by W. E. Nesfield, notably the clock tower, characteristically adorned with the signs of the Zodiac, dormers, and girouettes. The stables and lodge are also by Nesfield, as are several houses and cottages in the village. These, as well as some later work by Mr. W. H. Bidlake, make Hampton rich in some of the very best work of the present century.

Joined at Hampton by a contingent of the Birmingham Architectural Association on bicycles, the excursionists then made their way through typical Warwickshire lane scenery to Coleshill, where they were entertained at luncheon by the Birmingham A.A. A distant view only was all that the time permitted of the admirably proportioned tower and spire, built by Simon de Montfort, lord of the manor, in the reign of Henry VI., and most strikingly situated on the top of the hill about which the town is built.

From Coleshill the party drove on towards Birmingham, halting at Castle Bromwich, visiting first the house, built by Sir Edward Devereux, Bart., only son of Walter, Viscount Hereford, in the reign of James I. The estate was sold in 1657 to John Bridgeman, the ancestor of the present owner, the Earl of Bradford. Over the entrance porch, shown in our illustration*, are the arms and monogram of Sir John Bridgeman. The house is, with the exception of the entrance, simply treated in brick with stone-dressed mullioned and transomed windows. Internally there is much that afforded the visitors material for study of eighteenth century detail, the principal staircase in particular coming in for a large share of attention. A notable feature of the house is the long gallery, of which the projection over the entrance porch forms an alcove or bay.

The next object of interest at Castle Bromwich is the Church of SS. Mary and Margaret, apparently a red brick and stone building of eighteenth-century English Renaissance, excellent of its date and admirable in both its internal and external aspects. An inscription records that "This Chappel was begun to be rebuilt the year of our Lord 1726, and finished in the year 1731." The somewhat peculiar wording of this inscription, as well as some vague traditions in the village, led Mr. C. E. Bateman to make careful investigations. He has discovered that the eighteenth century building encloses a still existing earlier timber edifice, the original nave roof and clearstory still remaining, as well as the posts that formed the pillars of the nave, though now encased in plaster columns, with segmental arches between them. A capital set of drawings by Mr. Bateman hangs in the vestry, showing what still exists as well as a "restoration," in the French student's application of the term, of the probable original appearance. Little time remained for roaming through the village, as the excursionists, who by this time were reinforced by a large contingent of members of the Birmingham A.A., accepted the hospitality of Mr. Bateman, the father of Mr. C. E. Bateman, at the new house recently erected from the son's design, an architect's home in which the maximum of effect is obtained by skilful design at the minimum of cost. Leaving Castle Bromwich, the members drove to Acock's Green station, and so by train to Leamington.

* See the *Builder* for August 6.

Friday.

Once more by rail to Stratford-on-Avon, and then a long drive to Salford Hall, brought the members to the tit-bit of the excursion, at any rate in external grouping and colour, which lost nothing from want of sun on one of the most brilliant days of the present summer. The sketch in our issue for August 6 shows the entrance front, and over the doorway is an inscription, "Moderata Durant, 1662." The date is said to be a mason's error for 1602, but although this latter is nearer the date of the house, it is quite possible, from the character of the work, which appears clearly of a different stone to the main building, that the present doorway is a later insertion, and that the date is quite correct. The hall is within the manor of Salford Priors, bestowed in 708 by Kenred, King of Mercia, on the Abbey of Evesham, but it is not for this circumstance that the popular village name of the "Nunnery" has been given to the house, but rather to the fact that from 1808 to 1838 it was the asylum of some Benedictine Nuns, who fled from the troubles of the French Revolution. At the dissolution of the monasteries, Salford was granted by Henry VIII. to Sir Philip Hoby, and by him was sold to Anthony Littleton, who disposed of it to John Alderford, by whom the house was built. The high portion of the building on the left of our sketch is the end of a fine piece of composition towards the garden; a long front with three lofty bays carried up and finished with gables to the main roof. The lower buildings surround a small courtyard which contains some very picturesque grouping of stone and half timber.

On the way back to Stratford a short halt was made at Bidford, where a long string of eager sketchers made an attack on the old "Falcon Inn," where Shakespeare is said to have caroused "not wisely but too well." Some few of the party visited the church of St. Lawrence, of which the tower only is of interest, the church having been completely spoilt in the rebuilding of 1835. A glance at the picturesque bridge over the Avon, and the party returned to Stratford-on-Avon. Here the magnificent church of Holy Trinity, apart altogether from its presumptive connexion with the memory of Shakespeare, is of great architectural interest, the chancel especially being a remarkably fine example, both in design and execution, of late Perpendicular work. Then the Memorial Theatre, the work of Messrs. Dodgshun & Unsworth, was visited, and although criticised as being unsuitable in style to the *genius loci* of Stratford-on-Avon, was yet admitted to be a very meritorious design. The birthplace of the poet was glanced at by most of the members, although it was too late to see the interior, now utilised as a museum of relics connected with the poet and his times. Then by railway the party returned to headquarters, where in the evening the usual election of committee, display of sketch-books, music and songs heralded the close of the excursion.

Saturday.

The morning was devoted to a visit to the ruins of the grand castle of Kenilworth, interesting for its Norman keep, but still more for its association with Robert Dudley, Earl of Leicester, and the various buildings and historical connections of its successive owners, from Geoffrey de Clinton to Simon de Montford, John of Gaunt, and Robert Dudley. Architecturally the most interesting portions are now the great hall, built by John of Gaunt, and the gate house, built by Dudley. This latter has been altered to make a private residence and is still inhabited. The members were kindly permitted to view the interior, which they did with much interest. With Kenilworth the programme ended, and a very successful and enjoyable excursion came to a close.

MAGAZINES AND REVIEWS.

The *Art Journal* has an interesting article on Norwegian wood carving, with a number of illustrations from photographs, which show the general form of the objects carved and the mass effect of the carving rather than its detail. A monograph on Reigate, illustrated from drawings by F. J. Kitton, gives us some idea of the picturesque character of this old Surrey town. Mr. C. R. Ashbee advocates the more artistic designing of challenge cups, shields, and trophies—a branch of metal work which we may truly say has been characterised more than any other, except, perhaps, personal jewellery, by an absence of art-feeling—and illustrates his arguments by photographs of some very excellent work executed from his own designs. The Art Metal Exhibition, recently held at the Royal Aquarium, is also noticed, and illustrated with a certain amount of discretion.

The *Magazine of Art* has a memorial notice of the work of Sir Edward Burne-Jones, with illustrations from his pictures and studies, and an article on the Queen's treasures of art at Windsor Castle, with illustrations of candelabra, which, on the whole, may be taken as an antithesis to Mr. Ashbee's designs referred to above. Short notices of artistic bookbinding, stencil designs by Mr. Rottmann, and Mr. Gilbert Marks' silver work, all of which are illustrated, show the influence of the arts and crafts movement. This magazine also has an article on the metal workers' exhibition, by Mr. Starkie Gardner, the illustrations being of seventeenth-century and earlier work.

The *Illustrated Topographical Record of London* is the first series issued by the Organisation Committee of the London Topographical Society and contains illustrations of old buildings in London which were altered or pulled down during the years 1880 to 1887, and which are rather of antiquarian and topographical interest than architectural.

The *Artist* contains an article, with illustrations in line, of the rood screen and lectern of Ranworth Church, in Norfolk. The illustrations can hardly be considered as a complete record of the marvellous work which has been more completely performed in the Transactions of the Norfolk and Norwich Archæological Society, but are sufficient to give an indication of the high character of the work to be found in the beautiful screen, whose pre-eminence in East Anglian colour decoration is scarcely challenged except by that of Southwold. Illustrating an account of art in Vienna is a view of the Romanesque west end and the upper part of the spire of the Cathedral of St. Stephen. An interesting but short account of the technique of Gothic wood carving is based upon demonstrations given by Mr. W. H. Grimwood at the South Kensington School of Art wood carving. Mr. Stuart W. Proverbs' lecture on design for wall papers is continued, with some illustrations. The Art Metal Exhibition has also a short notice.

The *Architectural Record* (New York) is very full of interest, commencing with a critical examination of the principles of architectural composition, a subject which we fear is by many designers too little studied at the present time, in which old and modern works are alike used to illustrate the points brought out by the author, Mr. J. B. Robinson. "A Study of Evolution, Persistence, and Reversion in Ornament Motives" deals with these characteristics of the trefoil and palmette, showing how these features have constantly found a place in decorative design from the work of Assyria and Egypt to the time of the Renaissance. Mr. Barr Ferree continues his account of French cathedrals, and in the current number deals with the domed cathedrals of Périgueux. Some interesting illustrations of examples of recent French architecture give an idea of the modern treatment of detail by Parisian architects at the present day. "An Architectural Experiment" is an account of an attempt to build a Japanese house in America. The result is instructive. "The owner has found it

impossible to live in the West after a taste of Eastern civilisation, and is now a citizen of Tokyo. The house is dismantled of all its treasures, the rooms are empty, the little garden is running wild, and the bare shell alone remains, a forlorn relic of a delightful attempt to graft an alien civilisation on a tree grown weak with too vigorous life, and already showing signs of decay." Good things in modern architecture may, we think, be justly open to question.

In the *Antiquary* an account is given of recent excavations at Silchester, Cirencester, Andover, and elsewhere. Amongst other archæological subjects of more or less interest to our readers are the continuation of Isabel Suart Robson's account of hand-made lace, an article on "Bishops' Gloves," and another on the Shield Wall and the Schiltrum.

The *Engineering Magazine* has several articles of considerable interest to those connected with building, first amongst which we notice one on "Neglected Considerations in the Arrangement of Steam Piping," which is well worth careful study. An article on "The Heating and Sanitation of Public Institutions" gives an account in detail, fully illustrated, of the fitting up of the Brook Hospital on Shooter's Hill. Under the title of "Fire Resisting Construction—The Regulations in Force in London," Mr. Middleton points out how these affect the construction of buildings in general and places of entertainment in particular.

The *Essex Review* continues its accounts of Essex churches, that in the present issue being the church of St. Peter and St. Paul, Stondon Massey, by Mr. Fred Chancellor, illustrated by his son, Mr. Wykeham Chancellor. Markshall, near Coggeshall, is also illustrated and described, with an account of the Honywood family and their connexion with the house.

The *Pall Mall Magazine* continues it series of monographs of old houses with "Huntercombe and its garden," admirably described and well illustrated; the garden especially being very fully dealt with. Under the title of "A Cotswold Village," we have a sympathetic account of typical Gloucestershire domestic work of which there is so much scattered up and down the slopes of the Cotswolds. There is a description also in this magazine of some of the Royal Plate at Windsor Castle with admirable illustrations.

The *Strand Magazine* has a description by Mr. Harry Turner Hems, junior, of the method of taking a cast from the living subject, under the title of "Making a Life Mask."

The *Gentleman's Magazine* contains an interesting historical account of Oxford, and an article on the Tudor Garden, which points out the virtual commencement of the garden as a place for pleasure and rest in England.

The *Quarterly Review* has an article on "The Spade in Prehistoric Greece," with special reference to Mycenæ and the influence which the discoveries there made have had upon our knowledge of ancient Greek life. Another article on "The Evolution of the Charter" is a capital introduction to the study of mediæval documents.

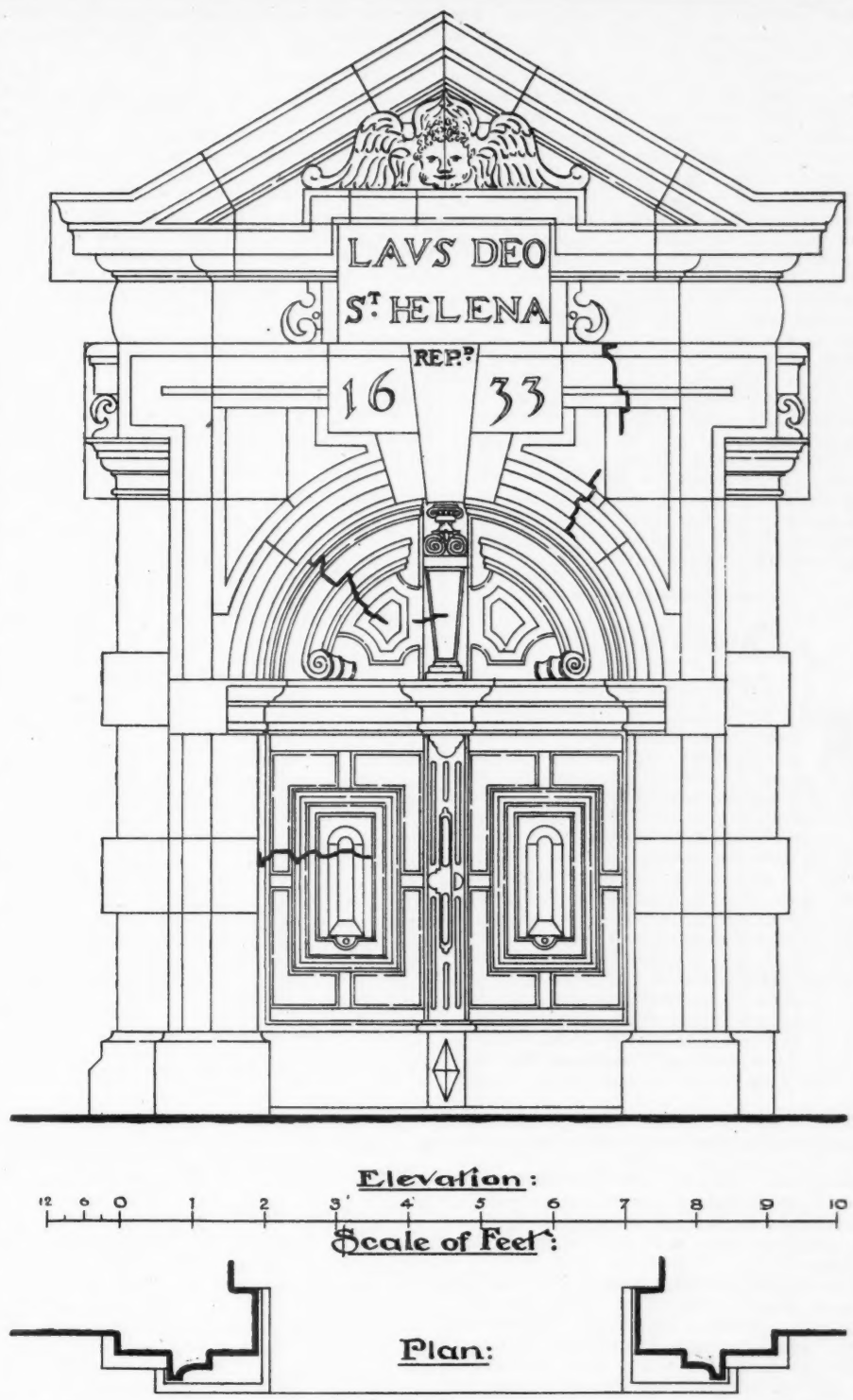
The *Century Magazine* has an account of the statue of Zeus at Olympia and the mausoleum at Halikarnassos, with an imaginary design of the approach to the mausoleum, thus dealing with two of the seven wonders of the world as recognised by the ancients.

SOUTH DOORWAY, ST. HELEN'S, BISHOPSGATE.

THIS doorway is believed to be a portion of the work carried out in 1631 under the direction of Inigo Jones, who was called in to carry out various repairs to the church, at a cost of 1,300*l*. The work done at this time included also the internal oak porches at the south and west, the pews, communion-rails, and a reredos, or "altar-piece," as it was called.

The doorway has been measured and drawn by Mr. J. G. P. Meaden.

OPEN SPACES.—The London County Council notify their intention, in pursuance of Section 19 of their General Powers Act, 1890, to apply their by-laws to Boundary Street-gardens, near Bethnal Green; to the land adjoining Victoria Embankment-gardens, next York-terrace (formerly known as Villiers-walk); to the Nelson Recreation Ground, Bermondsey; Holy Trinity Church Garden, Rotherhithe; and the Pimlico Shrubberies.



South Entrance Door, St. Helen's, Bishopsgate, Measured and drawn by Mr. J. G. P. Meaden.

ARCHÆOLOGICAL SOCIETIES.

SUSSEX ARCHÆOLOGICAL SOCIETY.—The annual excursion of this society took place recently, when Ashburnham and Battle were visited. The programme had been arranged by Mr. H. Michell Whitley, the honorary secretary of the committee. At Ashburnham Place the visitors were received by the Earl of Ashburnham and conducted to the church, the archæological treasures of which were exposed to view. These included the communion plate, and the parish registers dating from 1538. There is a fine sculptured tomb in the church, in memory of Jane, Countess of Marlborough, who married into the Ashburnham family. An account of the church was given by the vicar (Rev. Charles Baker) who said there had probably been a church on the site from the eleventh century, though the present edifice was built in 1663. The special features of the architecture were the wooden mullions of the windows; the seven steps from the floor of the tower to the nave, and seven steps again from the nave to the chancel, gave the altar a very lofty position. In the hall at Ashburnham Place were to be seen relics of Charles I. The party were also shown Vandyke's portraits of the Duke and Duchess of Richmond, and other family portraits. From Ashburnham the party drove to Battle, and at half-past one sat down to luncheon in the Drill Hall, under the presidency of the Earl of Ashburnham. The next move was towards the Abbey, which was thrown open to the visitors by the Duchess of Cleveland. Something like a torrent of rain fell at this time, and Mr. W. H. St. John Hope, who had undertaken to describe the building, found it convenient to open his remarks in the shelter afforded by the gateway. The Abbey, he explained, was founded by William the Conqueror, as the tardy fulfilment of a vow made before the Battle of Hastings. The site was on the very scene of the battle, and the high altar was supposed to have been placed on the very spot where Harold's body was found. The later history of the abbey was practically nil, except such as was written on its stones, for though part of it had been destroyed, sufficient remained to enable them to put together a fairly intelligible story. The abbey he described as of the normal Benedictine type, and he identified the remaining portions of the building as the guest house, the refectory, dormitory, infirmary, &c., pointing out the special features of each. He particularly called attention to the fine gateway, the beautiful twelfth century work on the exterior of the guest

house, and the ruins of the dormitory. The principal points on the field of battle were to have been pointed out by Mr. W. A. Raper, but owing to the continuous rain this portion of the programme was omitted, and the archæologists filed into the church, where the Norman font and the monument to Henry Anthony Browne, Master of the Horse to Henry VIII., were inspected. The Very Rev. Dean Currie gave a description of the church from the historical point of view. He thought it improbable that there had been, before the Conquest, a parish of St. Mary of the Wood, as had been said. The original Norman building, parts of which remained in the present church, was erected in 1187, as the monkish records showed, for the people of Battle, whose attendance at the church of St. Martin, in the abbey, had caused to the monks "certain inquietude, which they were unable to suffer without breach of order." Mr. J. Lewis Andre read an interesting paper on the architectural features of the buildings, and the party proceeded to the Deanery, where they were entertained at tea by the Dean and Mrs. Currie. Another drive took the archæologists to St. Leonards, arriving at about six o'clock.—*Sussex Advertiser.*

Illustrations.

ASHORNE HILL.

THIS house stands on a hill about five miles from Leamington, and commands views over Stratford-on-Avon, Warwick and its Castle, Chesterton Mill, said to be by Inigo Jones, and Edge Hill, where the quarries supplying the walling stone, of which the house is built, are situated. The dressed stone is from the Milton quarries, and this, though at first rather yellower than Bath stone, tones with the weather so that it harmonises well with the grey and brown of the walling. The tiles are local red ones.

The outside woodwork and that of the hall, staircase, gallery, and dining-room is of oak. The panelling of the drawing-room is painted. The ceiling was executed by Messrs. Jackson & Son, from designs by the architect. The carving of this room and throughout the house has been done by Messrs. Martyn, of Cheltenham.

The hall fireplace, which is 6 ft. high to the underside of the hood, is of Portland stone to the level of the height of panelling and above this of Beer stone. The two windows open into a small room with entrance from the gallery, and the front of the hood is designed to show the world with the waters under it and the heavens above.

The contractors were Messrs. J. Parnell & Son, of Rugby; the clerk of works Mr. Chappell; and Mr. E. Goldie, 31, Upper Phillimore Place, Kensington, W., was the architect.

The plan of the house and interior of the hall were published in our issue for December 14, 1895.

CHANCEL SCREEN, ALL SAINTS' CHURCH, FULHAM.

WE have not received from Mr. Skipworth a description of this screen, and all we are able to say is that the drawing was exhibited in the Royal Academy this year.

Nos. 76, 77, 78, ST. PAUL'S CHURCHYARD.

THESE premises have been erected on the site of some old buildings which have been occupied by James Spence & Co., the well-known drapers, for fifty years. They have a frontage of about 70 ft. to St. Paul's-churchyard and a side frontage to London House-yard. The view is taken from the steps of St. Paul's Cathedral by the west door. The older premises were pulled down just before the Jubilee in order to make way for the large stand which was erected by Mr. Maskelyne, the seats being let out at large prices to view the Jubilee procession and the ceremony in front of St. Paul's Cathedral. The plan of the new structure calls for no special comment. It consists in the basement of the packing and country order rooms. The ground, first and second floors are devoted to show rooms, a portion of the second floor being used as a factory. On the third floor are the dining-rooms and on the fourth the kitchens and bedrooms. The building is fire-resisting throughout; the interior is carried on steel stanchions, and the floors are of steel girders and coke-breeze concrete by Messrs. Homan & Rodgers. The principal staircase is of teak 2 in. thick, which under the London Building Act is taken as fire-resisting. The walls and ceilings are covered with asbestic plastering. As to the exterior, the façade above the ground floor has four projecting bays, the stonework of which is assisted by steel girders cantilevered over the main girders resting on the piers; at the top is a deeply-projecting cornice covering the bays and crowned with balustrade. Ketton stone has been used because it has been found to resist the London atmosphere. The mullions are fitted with the N.A.P. reversible steel casements. The design has been kept quiet and simple, the first, second, and third floors having no mouldings whatever. On the ground floor rusticated Ionic pilasters have been used. These support consoles carved with medallions representing Europe, Asia, Africa, America coming to do honour to the Queen's Jubilee. The centre console is carved with a head of the Queen. The consoles support sculptured lions supporting shields. The stonework has been executed by Messrs. Flint Bros., of Kennington. The rain water from the roof is collected into three large cast lead heads, and the square flat rain water pipes have ornamental ears. The roof is covered with green Westmoreland slates in diminishing courses. The architects have attempted to grapple with the shop front difficulty by treating the space between the piers as lightly as possible, treating it as a bay window with a large amount of glass, so that the weight appears to come, as it really does, on the piers beneath the wall space. The electric lighting has been executed by Messrs. Sage and Messrs. Laing, Wharton, & Down. The shop front, of gun metal, is by Messrs. Francis to the architects' designs. Messrs. Sage & Co. are responsible for the shop fittings, Messrs. W. J. Fraser & Co. have executed the lifts and the heating apparatus. Mr. John Greenwood is the general contractor. The building has cost about 15,000*l.* The architects are Professor Banister Fletcher and Mr. Banister F. Fletcher.

THE CAMBRIAN ARCHÆOLOGICAL ASSOCIATION.

THE fifty-second annual meeting of this Association was held at Ludlow during the week commencing Monday, August 8th. Though beyond the present bounds of Wales, the Cambrians, in fixing upon Ludlow, were not intruding upon the province of the two English archæological societies, the marches of Wales having always been recognised as falling within the bounds of their activity; a tiny point in itself, but one not without its importance to the busy antiquary who wishes to turn to the particular set of journals or transactions likely to contain the information he requires with the least expenditure of time. The Association met at Ludlow forty-six years previously, and it may be interesting to record that of the members who then attended three were present last week. Lord Windsor occupied the presidentship, which in 1852 was filled by his grandfather, the Hon. R. H. Clive, the author of the well-known work entitled "Documents Connected with the History of Ludlow."

The first excursion was taken on Tuesday morning, the 9th inst., the very sensible plan being adopted of commencing with the town and its immediate neighbourhood. The visitors proceeded to the Castle, where they were taken in hand by Mr. C. Fortey, the honorary curator of the local museum. Ludlow Castle has been the subject of a careful paper by the late Mr. G. T. Clark, reprinted in his "Mediæval Military Architecture," and it is therefore unnecessary to attempt the quite impossible task of conveying an idea of the architectural characteristics of the building in the space at command. Suffice it to say that the castle was originally planned upon a somewhat larger scale than that ordinarily adopted in strictly Norman times. This was probably due to the favourable conformation of the ground, which admitted of the enclosure and fortification of a fairly large area, and the separate distribution of certain departments of an early castle that are ordinarily found united or in close juxtaposition. A further circumstance in the case of Ludlow is the unusually extensive additions and alterations which the requirements of successive generations have wrought in the original pile. It must be remembered that about the period when a number of castles were being deserted for more comfortable dwellings, or had been rendered useless for further occupation in the baronial quarrels of the first half of the fifteenth century, Ludlow Castle started upon a career of dignity that soon demanded large structural changes. The establishment of the Council of the Marches of Wales at Ludlow had no military significance whatever; it was a politic act of that most politic of sovereigns, Henry VII., and was intended as much as a centre of attraction for the nobles of the marcher district as a menace to the disorderly elements of society fostered and protected by the marcher lords. Ludlow became the centre of a small court, no doubt very much after the style of the court of Dublin Castle at the present day, and it may well be that with a wealthy and magnificent President of the Council, the earlier buildings of the Castle would be subjected to continual tinkering for the purposes of adapting features that suited the rude requirements of a Plantagenet noble to the more refined tastes of an exquisite of Elizabeth's spacious times. Thus the present ruins of Ludlow Castle range through successive stages of architectural progress and decline, and its long and unbroken history warns us against dogmatising too emphatically upon the date and the reason for many puzzling features that meet the antiquary in his survey of the pile. Next to the splendid keep, whose enormous strength has preserved its Norman form and principal features, modified in its upper floors in Decorated and Perpendicular times, the most interesting part of the castle is the chapel. This stands out in the centre of the middle ward. Internally it is 28 ft. in diameter, and is divided into an arcade of fourteen arches, seven on each side of the western doorway and of the eastern archway that once led into a chancel which was standing in the reign of Charles II. The present circular building, therefore, became the nave of a larger structure which united it to the eastern curtain wall. No traces exist from which the form of the original east end of the church can be conjectured. A drawing of the seventeenth century shows the chancel to have then had two Tudor windows in its north wall, and windows in the roof. Of no building is it more desirable to obtain its full documentary history than Ludlow Castle. Surveys made at different times are preserved in the Public Record Office, and it is sufficient to point to the changes effected in many parts of the castle during the governorship of Sir Henry Sidney (1560-1586) enumerated in a document quoted in Clive's "Ludlow" to make clear the necessity for further researches amongst the public records.

Much the same may be said of Ludlow Church, but here the chances of eking out the architectural history of the structure by contemporaneous documentary evidence are considerably less. The church is well known as one of the finest in England, its extreme length being 203 ft., with a breadth of 130 ft. across the transepts. The tower, a magnificent specimen of Perpendicular, rises 130 ft. There first came a Norman church, which was followed by an Early English building, and traces of the former are said to be discoverable in the walls. The church is said to have been rebuilt in 1199, the string course at the west end and around portions of the transepts being of this period, as well as parts of the east wall of the chancel. Later on the north and south nave aisles were rebuilt, the tracery of the windows, which are extremely good examples of the Decorated style, being covered with the ball flower ornament. The transepts were also rebuilt during the same period. About 1450 large changes took place which transformed the church to, in the main, a Perpendicular building. The east window is a beautiful specimen of the style, kept, as was not always the case, within the bounds of grace and proportion. The glass is also extremely beautiful; it illustrates various incidents in the life of St. Lawrence, the patron of the church. There are two transeptal chapels. The northern, dedicated to St. John, has a baldachino or canopy of unusual height, and the glass is exceedingly fine. The other chapel is dedicated to the Virgin. Below the east window is a small window of more elaborate character than those generally found in this position. The porch is hexagonal, similar to, but earlier than, that of St. Mary

Redcliffe, Bristol. It is vaulted—the only example of vaulting throughout the edifice—and has a chamber above. The stalls contain splendid examples of modern as well as mediæval carving, and the usual quaint devices upon the subsellia are exceedingly interesting. The church was collegiate; the residence of the reader, bearing the date 1616, is still standing just without the precincts of the church, and portions of the collegiate buildings are traceable in a neighbouring structure termed Hosier's Almshouses. It need hardly be said that Ludlow contains a number of interesting examples of sixteenth and seventeenth century domestic architecture, which are deserving of attention. The "Feathers Hotel," an exceedingly fine specimen of a black and white timbered Elizabethan house, contains much good oak; the dining-room is a delightful and well preserved apartment. The "Bull Inn" is the present home of much of the oak that once decorated the business chamber of the Council of Marches; the panels bearing the shields of the several generations of presidents and members of the Council have been used to wainscot one of the rooms of the inn. The Ludlow Museum contains several objects of antiquity, amongst them a curious money-box of the Company of Stitchmen, which has been figured in the journal of the British Archæological Association, Vol. xxiv., p. 332, and an instrument of torture intended to compress the head, which also has been described and illustrated (*Arch. Journal*, xiii., 269). The Grammar School, said to be the first school of that kind established in the kingdom, dates architecturally from the late fifteenth century. At Ludford House is what seems to be an authentic portrait of Richard III. Should this ascription be correct, the painting is of the highest historical interest, apart from its artistic value, which is considerable. In 1687 Sir Job Charlton, Speaker of the House of Commons, entertained James II. here in great state. Ludford Church has a brass to the memory of William Fox, who died in 1554. The town was walled and pierced by three gates, of which the only existing one, the Broad Gate, has lost most of its distinctive features by incorporation into modern dwellings. A chapel of St. Catherine once stood on the bridge that spans the Teme, but of it and of the adjacent priory of the Knights of St. John, who probably served the little bridge chapel, no traces now exist.

Tuesday's excursion led first to Stanton Lacy Church. The controversy that so long raged over the question whether there was such a thing as Anglo-Saxon architecture has subsided, the generally-accepted opinion being that there still remain a few edifices which possess certain peculiarities not found in any buildings of admitted post-Norman date. One of these is Stanton Lacy. The church is known to most ecclesiastical antiquaries; it has been described by the late Mr. Petit in the *Archæological Journal*, iii., 297. On the south side at the ground level of the external walls are four monumental arches of fourteenth-century work; one effigy seems to be in civilian dress though wearing a sword, the other is apparently that of a priest; both are indistinct. The remaining arches cover slabs, one showing a very early rude cross with the cross-head within a circle. The small cross over the closed Norman doorway in the north side of the nave is deserving of notice; it is equal-armed and probably occupies its original position above a doorway that has given place to the usual round-headed Norman portal. The eastern and western tower arches are ornamented with the ball-flower, but the corresponding north and south arches opening into the small transepts have plain chamfers and their capitals are without decoration. The chalice is dated 1699. The registers commence in 1561; they contain under 1643 a record of the construction of the still existing bridge over the neighbouring Corve. Culmington Church consists only of nave and chancel, divided by a poor Perpendicular screen. On the south side of the chancel is a double piscina, with a beautiful trefoil head. A Decorated niche has been made in the south wall of the nave, but the effigy is absent. The octagonal spire, which no doubt was of wood, has been destroyed, and clumsily replaced by a low zinc extinguisher. Diddlebury is an interesting parish church. There was probably a church here in Saxon times, which is borne testimony to by a rude piece of sculpture apparently representing Adam and Eve in the Garden of Eden, now built into the lower portion of a closed window. The footings of the building consist of three shallow steps, and the wall rises directly from the upper step. This uncommon and primitive method carries the erection of the building back to a period anterior to the introduction of Norman. On the other hand, no long-and-short work is perceptible. About the commencement of the twelfth century a western tower was built. This soon showed signs of collapsing, and to strengthen it clumsy buttresses were placed at the angles, cutting through the Norman corbel table. The south wall of the interior contains some herring-bone masonry. The roof has been slightly altered in pitch. The north door, now closed but visible on the outside, is Norman, with a starred form of ornament. Corfham Castle, which, with the manor of Corfham, was granted in 1178 by Henry II. to Walter de Clifford, father of Fair Rosamond, is a name and naught else. Holgate, on the other hand, has antiquities of exceptional interest. Earliest in date is the mound, which may have been British, but which in external appearance more resembles those artificial earthen mounds that are termed Saxon. It is very perfect, and has suffered little from the operations of more peaceful times. The mound was at the angle of an enclosure, the line of which is perfectly clear, and which was itself within a larger enclosure. On the inner enclosure a Norman or Plantagenet built a castle, of what dimensions it is useless to speculate. But later still a prosaic Englishman entered into the labours of his predecessors, Briton, Saxon, and Norman, and built himself a farmhouse of quite insignificant appearance. With the practical utility and absence of sentimental considerations which are characteristic of the product of that racial amalgam, and finding his Norman predecessor's dwelling to be sound and strong, he incorporated a tower into his house, where it forms a striking testimony to the continuity of English life. The same Norman, or at any rate some other Norman, proceeded to build a church within a dozen yards of the stone castle and of the Saxon earth mound. There was no doubt a church already there, for the Norman's forerunners were just as devout as himself. The eastern gable contains a deeply-splayed late-Saxon window, of good proportions, slightly widening towards the foot, and having the splay so pronounced that the light has an external width of not more than 4 in. This building was probably almost entirely taken down; a tower was added, and entrance into the church obtained through a doorway of three orders in its western face. The tower has a plainly rounded string-course, below which its base is slightly battered. The font is the only other object of early date. It is a fine example of the fonts of the Norman period, and is in excellent condition. It rests upon a circular pillar, rising from a square cushion, which in its turn rests at right angles upon a square base; beautiful little carved figures occupy the angles. The upper edge is surrounded by a cable moulding. The body of the font is ornamented with zoopomorphic designs formed by the intertwining of two dragons, some of the contortions running into narrow strap work bearing a dot or stud pattern. The font and doorway are illustrated in Anderson's "Shropshire."

The next place of call was The Heath, a little church standing upon high ground, and far from the present haunts of men. Reference has frequently been made to the existence in the Shropshire churches already described of details of the architecture introduced into this country by the Norman barons. Whatever hesitation may still exist in accepting the claim of Saxon for some of them, there can be none in regarding all as having been worshipped in, if not built by, the earlier or later stocks of Norman baronage. Domesday Book was not intended to be a record of churches, but churches when they owned land come into the great register. Domesday was compiled in 1086. As bearing upon the question What was the character of the churches of Shropshire in 1086, whether built by Saxon or by Norman, the statement of Domesday in relation to one of the churches seen during the week is of prime importance. Of the church of Bromfield, under the heading, Quod tenet Ecclesia Sanctæ Mariæ [de Bromfeld], it is stated: "The same church holds Brunfelde, and there it is built. Here are now x hides and in demesne vj ox teams, and there are xij neatherds, xv villeins, and xij boors with viij teams. It is worth 50s. annually to the canons, and Nigel the physician has 16s. annually from this manor. In this manor there were in King Edward's time xx hides, and xij canons of the said church had the whole. One of them, Spirtes by name, had alone x hides, but when he was banished from England King Edward gave these x hides to Robert Fitz Wimarch, as to a canon, but Robert gave the same land to a certain son-in-law of his, which thing, when the other canons had shown to the king, forthwith the king ordered that the land should revert to the church, only delaying till at the court of the then approaching Christmas he should be able to order Robert to provide other land for his son-in-law; but the king himself died during those very festal days, and from that time till now the church hath lost the land. This land Robert now holds under Earl Roger, and it is waste. One part with another, the arable land is sufficient to employ liiij ox teams." Here we have a church which T.R.E. (which, of course, does not make it, architecturally considered, a Saxon church) had twelve canons. Its very existence postulates the contemporary existence of other churches, and their continuance under the Conqueror. The comparatively peaceable reign of Henry I. saw the multiplication of churches, parochial as well as monastic; and there can be little doubt that by 1135, when Henry died, Shropshire was as well supplied with churches as it is now. The mischief is that, so anxious were the lords and abbots of later times to compound for sins they had a mind to by taking down the old churches and rebuilding them, that it is difficult to find a perfect example of the parish church in which our Norman ancestors worshipped. The church of the Heath happens to be one, and its neglect at the hands of antiquaries can only be accounted for by its present inaccessibility. The hurried visit of a party of archæologists is not the occasion upon which justice can be done to such an architectural relic, but it is to be hoped that its introduction to the notice of antiquaries will lead to its careful study. Briefly, it consists of a nave and chancel divided by a plain, double-faced arch, which, on the chancel side, has a pier at the angles of each side resting upon a square base decorated in the regular Norman manner. The windows are original, with the exception of one Tudor insertion. The interior is structurally the same as when first built, save that the chancel has been ceiled with a flat roof which cuts the top of the eastern window, and the rood screen is to be partially traced amongst the timbering of the pews. The latter are all of oak, and have an ornamental Tudor rose within a lozenge carved upon each panel. The piscina is rude—no doubt the original—as is also the font, with its pattern of half circles running partially around it. The string course is carried below the sills of the windows, and is perfect, both externally and internally. The external walls have flat buttresses which are carried up to the corbel table; the doorway is of the usual character. It is clear that we have here a church which has retained its Norman features unaltered save in unimportant parts. Its preservation as such is a matter of moment. Though the mother church to Stoke St. Milburgh its remoteness led to the discontinuance of services within it except at distant intervals, but the present energetic vicar has re-established the weekly services, and this has drawn forth a perfectly natural call for greater comforts and conveniences than at present exist. The vicar is desirous to conserve the ancient features of the edifice, and at the same time to meet the requirements of the twentieth century. The problem is not a difficult one, but its thoroughly satisfactory solution depends upon the person called in to advise.

From the Heath church most of the party successfully accomplished the climb to the top of Abdon Burf, 1,792 ft. above sea level, where they found a prehistoric camp of the same character as Carn Goch in Carmarthenshire and the Flintshire Gaer. The earthen vallum is well defined throughout, and is protected by a ditch from 6 ft. to 10 ft. in depth. The entrance is guarded by parallel walling. A number of hut circles were discovered within the enclosure, and also traces of more recent excavations.

On Wednesday one section of the party proceeded to Ashford Carbonell. Amid much that is interesting in this well-restored church the most striking feature is the arrangement of the windows at the east end. These consist of two Norman lights of the round-headed, deeply-splayed type, with an oval-shaped or vesica window above. It is asserted that all the

lights are contemporaneous, and if this should be correct the juxtaposition of the round and the pointed arches makes this church one of the earliest examples of Norman Transitional. The true arrangement of the windows was not suspected until a restoration about fifteen years ago. Prior to that date the east end was lighted by a Perpendicular window, the insertion of which had been effected by the destruction of the Norman lights and of the lower half of the oval. The walls were plastered and white-washed, and the upper portion of the vesica showed as though it were the top of an ordinary lancet. The removal of the Perpendicular window revealed the internal angles of the Norman windows, of which sufficient had been preserved, as also of the upper part of the vesica, to admit of the restoration of the whole. The church has three bells, two of which are reported to be of early date. The Lombardic lettering upon one of the latter, dedicated to S. Paulus, is of superior elegance, the angles of the letters being floriated in an unusual manner.

Another party went to Richard's Castle, one of the strictly baronial fortresses thrown up by a Norman follower of Edward the Confessor for the purpose of protecting his estates from the Welsh. The castle is built on an earlier artificial mound, and the ruins consist of little more than the circular keep. The present remains, however, seem to be of later date than the Confessor. The church is close to the castle. It is an edifice of Decorated character, with fragments of Norman and Early English work. The tower is detached, a very unusual feature in this part of the country. The party reunited at Orleton. The church is an interesting example of transitional Norman. The two eastern lights are lancets under round-headed openings. The south windows of the nave are Decorated, with beautifully proportioned tracery. The Norman font is of very large size, and has the bowl divided into nine compartments, occupied by figures of the apostles. The figures are in strong relief, and the detail is unusually clear. The churchyard cross has the regular slender shaft, but is without the head. The chalice is pre-Reformation. Shobdon was formerly the seat of a priory whose church, if it was not parochial before, became so after the Dissolution. About a century ago the church underwent restoration. Three beautiful late Norman arches, one probably the chancel arch, and the others no doubt doorways, were removed by the lord of the neighbourhood to the summit of the hill above the church and erected something after the manner of a triumphal arch. The smaller arches are placed on each side of and slightly behind the larger or central arch, and the upper portion of the intervening spaces holds two pieces of sculpture which were once tympana. Mr. J. Romilly Allen, F.S.A., explained the subjects to be (1) Christ in Glory and (2) the Harrowing of Hell. The former subject occurs above a doorway in Ely Cathedral. Every portion of the arches is covered with sculpture, knights in armour, animal forms, and geometrical panels occurring in extraordinary profusion. The whole has an un-English character, which is attempted to be explained by the story that the founder of the church went upon a pilgrimage to Compostella and brought back a few foreign artists. There is a monograph upon these sculptures by Mr. G. R. Lewis. The Norman font has been set up in the churchyard ; the bowl is decorated with figures of lions, executed with great spirit. Aymestry church has been well restored. It has a beautiful Perpendicular canopy which has come from some other edifice, traditionally said to have been at Neath or Swansea. One of the visitors observed that at the very period at which the screen was set up in Aymestry Church, the church known as Old St. John's, Swansea, was pulled down. The latter is known to have contained many extremely rich details which were not re-erected in the new edifice. During the restoration of Aymestry Church in 1886 several mural paintings were discovered, but, according to the vicar, neither from their religious or artistic character did they merit preservation. Wigmore parish church was for a short period conventual, but was early deserted for a site several miles distant where are the remains of Wigmore Abbey. The church is a large building, having had a large south aisle added in the Decorated period when the originally Norman church was altered. In the external north wall some good herring-bone work is to be seen. The piscina and sedilia are interesting. Wigmore Castle occupies a low but, on one side, precipitous height, and commands an extensive plain. A burh is mentioned in the Saxon Chronicle as having been built here in the year 921. This was replaced by a Norman stronghold, which became the chief seat of the powerful family of Mortimer. It was rebuilt, and to some extent remodelled, by the Mortimer who suffered for his too intimate connexion with the widow of Edward II., but it continued to be private property until Edward IV., the heir of the Earls of March, merged it in the estates of the Crown. The castle was dismantled after the war of the seventeenth century, and much of it reduced to shapeless masses of masonry. Pipe Aston Church has a sculptured Norman tympanum. The subject is the Agnus Dei within an aureole, having on one side a winged bull and on the other a griffin. The whole is surrounded by a roll moulding ; the capitals of the doorway bear carvings of two dragons with highly contorted tails.

The final day's excursion included Leintwardine, where is a large and much-restored church. The chancel is ascended from the nave by five steps, and is, it is stated, built upon part of the Roman wall, Leintwardine being almost certainly the site of the ancient Bravinium. A beautiful Late Decorated reredos has been ruthlessly cut away to allow of the insertion of a large east window. The last of the five bays of the nave arcade on the north side formed a small chapel of the Mortimer family. The stalls, which are of poor workmanship, are said to have come from Wigmore Abbey. The tower is of great height and of a different character to those of the neighbourhood. Bromfield Church consists of chancel, nave, and north aisle. As has already been shown, a church existed here in 1086, of which there are traces in a Norman loop in the wall between the nave and the nave aisle, and in a large rounded arch behind the present altar which was probably the chancel arch of the Benedictine church. The chancel was enlarged and the nave aisle added in the thirteenth century. The church was restored in 1672, when the chancel ceiling was decorated with paintings in the extravagant style of the period. Brampton Bryan Castle was the seat of the Bramptons, whose heiress carried it into the family of Harley. It has been dwelt in by successive generations from the first Edward to Elizabeth, and bears abundant marks of having been adapted to the varying requirements of its occupants. The most perfect portion of the present ruins is the gateway, which dates from Edward III. Some of the details of this period are very fine, and a beautiful little Decorated window in the outer face of the gateway shows that by the middle of the fourteenth century the fear of sudden attacks by the Welsh or by a turbulent neighbour had subsided. The church is situated a few yards from the castle. It is a building of one chamber, having no structural division between chancel and nave, and is of great breadth. It is said to have been erected by Sir Robert Harley, one of the leaders of the Roundhead party. It has a grand hammer-beam roof, which is believed to have come from the ancient castle ; but this is not probable, as it is difficult to conceive that the castle contained a room sufficiently large to have borne it. The upper portion is now concealed by modern matchboarding. A monumental effigy of the period of Edward III., said to represent the Brompton heiress who carried the castle to the Harleys, has been placed in a niche in the south wall. Bucknell Church has a fine Norman font. Coxwall Knoll, one of the sites which claim the honour of the last stand of Caractacus against the Romans, was also visited.

The last halt was made at Stokesay Castle, which has been so often described that it need only be mentioned here. The evening gatherings produced nothing of value except an interesting paper upon Bromfield Priory by the Rev. C. H. Drinkwater. The arrangements for the meeting were admirable, plenty of time being, as a rule, allotted to the really important objects of interest.

BOOKS RECEIVED.

Handbook for Gas Engineers and Managers Sixth Edition. By T. Newbigging (Walter King, Bolt-court, Fleet-street, E.C.).

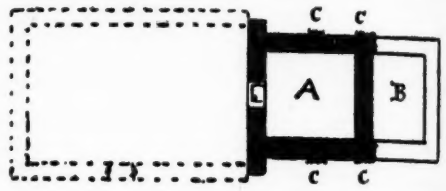
Applied Geology. Part I. By J. V. Elsden, B.Sc. (The Quarry Publishing Company, Limited, 5, Arundel-street, Strand.)

Correspondence.

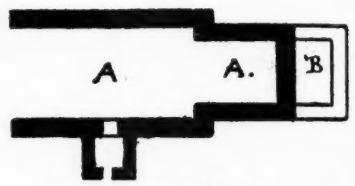
To the Editor of **The Builder.**

ST. MARTIN'S, CANTERBURY.

Sir,—Is there not a much simpler translation of the remains found at St. Martin's Church, Canterbury, than that suggested by the Reverend Canon Routledge, which is mentioned in your review of his book given in the *Builder* of July 30? Having the plan of Stone-juxta-Faversham at hand induced me to draw out so much of it as was of early date by the scale given with the St. Martin's plan. Thereon a foundation is given in dotted lines *east* of the conjectural apse, an item which, unless *actual evidence is present*, may be fairly omitted, seeing that in so far as at least eight-tenths of all Saxon churches have *square east ends*. Comparison of the plan of Stone-juxta-Faversham with that of St. Martin's will show that the part west of such foundation should have read probably not "first extension" but *first work* ; and to that *east* of such foundation *first extension*, in which it will be seen to closely follow what is found at Stone church ruins.



Stone-juxta-Faversham.



St. Martin's Church.

A. A. A. The early buildings in each case.
B. B. Extension of choirs eastward.
C. C. C. C. Sites of shallow buttresses destroyed in Pointed times to the walls of the church.

The walls extending west of St. Martin's chancel arch merely prove that an extension of the old choir took place westwards into the earlier nave, as well as to eastward of the former choir ; consequently a new nave had to be formed (that nave at present shown on the plan you have given). No remains of its west wall having seemingly been recovered, therefore a west wall line is omitted. Nor can such be figured at Stone's early west-end either, for the wooden nave must there have continued until replaced by the flint walling of its latest nave, whose fragments still remain, this so late that the remains of its south door jambs still rest on a threshold slab formed of a reversed coped monumental stone.

When we remember that Saxon churches usually descended one or two steps *down into choir* from nave floor (as at Stone-juxta-Faversham and the Saxon Chapel, Bradford-on-Avon), the sectional line given on the plan in the *Builder* of no less than *six* steps *above* the nave floor shows how much, even in small churches, as at St. Martin's, are the old rules of Saxon age customs nowadays upset and overthrown.

Jas. T. Irvine.

REIGATE MUNICIPAL BUILDINGS COMPETITION.

Sir,—I enclose conditions of the competition for municipal buildings at Reigate—advertised in your last issue—and from a local knowledge of the place, as well as from a professional point of view, I sincerely hope that every self-respecting architect will give the Reigate Corporation a lesson and leave their competition to the contempt it deserves.

There is hardly any chance of the scheme being carried out. The site is utterly unsuitable as to its position—at one end of the borough, and it is unpopular with by far the larger half of the ratepayers ; in fact, the whole business is a fad. This is proved by the sixth condition :—"The Council do not guarantee to carry out any of the designs, and also reserve the right to modify, 'combine,' alter, or amend any of the prize designs which they may think fit, and in the event of any designs being carried out no further payment will be made to the author." You will thus see the Council very wisely do not *guarantee* to carry out any design !

The premiums—50*l.*, 30*l.*, and 20*l.*—amount to 100*l.*, for which noble sum the Council hope to buy up three designs, and "their authors shall have no further claim upon them." Then they are going to "combine," alter, &c., the lot! "Combine" is beautiful! Imagine the result—the Reigate Town Council's patent combination design! The "assessors" are mentioned in Conditions 2 to 5, but nowhere is it stated who they will be ; but in Condition

6 they give place to the "*Council*." Are they one and the same persons? Observe the drawings required: "A general elevation," a general section! and three plans! Who will make the other necessary drawings, when the Council have purchased the three most suitable designs? What is a "general" elevation? Is it possible that, having picked the brains of three poor architects, the drawings are to be turned over to the Borough Surveyor to carry out?

Seriously, I sincerely hope that the poor old profession has not fallen so low as to produce three respectable practising architects to respond to these miserable conditions. ARCHITECT.

*** Our correspondent might also have quoted clause 4 of the conditions, which reads:—"The assessors do not bind themselves in the event of only a small number competing to give the three premiums before mentioned, but only such as they may consider merited"!—ED.

SIR,—With this I enclose conditions of competition for the proposed Municipal Buildings, Reigate. The terms offered are so preposterous that it is difficult to conceive that any architect would be willing to compete; yet some plans will, I expect, be sent in.

The Corporation of Reigate offer 100*l.*, divided into three premiums of 50*l.*, 30*l.*, and 20*l.* This might be a suitable sum for many things, but the Corporation require plans to the one-eighth scale for buildings to cost 15,000*l.*, for which, without competition, they would have to pay an architect 2½ per cent., or 375*l.*; but for 100*l.* the Corporation hope to obtain three designs which shall become their absolute property, no further payment to be made to the authors in the event of any design being carried out.

This generous offer is further enhanced by the statement that they do not bind themselves to give three premiums should only a small number compete, but only such as they consider merited.

GEO. HURST STANGER.

The Student's Column.

SOUND, LIGHT, AND HEAT.—VIII.

SOUND VIBRATIONS.

IN the last article we described an apparatus for determining the velocity of sound in divers substances; and in connexion therewith referred to nodes and vibrations. Let us consider the subject more in detail. If we know the number of vibrations in a sounding body, or which that body makes per second, it is an easy matter to calculate the corresponding wave-length. Assuming in the calculation that sound travels at about 1,120 ft. per second, if a body only made one vibration per second its wave-length would be 1,120 ft.; if it made three, the third, and so on. From this we perceive that the wave-length of any note is the quotient obtained by dividing the velocity of sound by the number of vibrations.

We cannot go into the properties of musical notes at any length; but, in so far as the physical theory of music leads us to comprehend the meaning of vibrations and their effects upon each other, it may be discussed. The student will find this matter dealt with in some detail by Atkinson in "Ganot's Physics," chapter iii. A simple musical note results from continuous rapid isochronous vibrations, provided the number of the vibrations falls within the following very wide limits. It was thought at one time that the human ear could not perceive a sound when the number of vibrations was below sixteen per second for deep sounds, or above 9,000 for acute sounds. Sávart showed, however, that the faculty of perceiving sounds depends more on their intensity than on their height, so that when extremely acute sounds are not heard it arises from the fact that they have not been produced with sufficient intensity to affect the organ of hearing. By increasing the amplitude and intensity of the vibration he produced acute sounds up to 24,000 vibrations per second. Conversely, he made very deep sounds of only 7 or 8 vibrations per second. Despretz succeeded in getting acute sounds audible up to 38,000 vibrations per second, and subsequent observers up to 41,000. To very many people, however, the maxima mentioned would be inaudible, and in any case affect the ear as though the latter had been pricked by a number of sharp points. A graphic method has been devised for determining the exact number of vibrations corresponding to a given note.

Pursuing the subject of musical sounds, which must of necessity fall well within the maximum and minimum limits just defined, it may be stated that musical notes are in most cases of a compound character. Atkinson remarks that the tone given out by a tuning fork furnished with a proper resonance-box is simple; that yielded by a wide-stopped organ pipe, or by a flute is nearly simple; whilst that coming from a musiçal string is compound. The "pitch" of a musical note is determined by the number of vibrations per second yielded by the body producing the note; the "intensity" of the note depends on the extent of the vibrations, being, in fact, proportional to the square of the extent, or amplitude of the vibrations; the "quality" is that peculiar property of a note, not at all well understood, which distinguishes a note when sounded on one instrument from the same note when sounded on another. This quality is sometimes known by the term "timbre."

From what has previously been said it will be obvious that if we know the number and extent of vibrations for any particular musical note, we can ascertain through what substances it will travel best, or what will impede it when necessary. When we come to consider the question of reflection of sound and echoes, it will be seen that there is a practical advantage in studying amplitude, also, in connexion with the acoustic properties of interiors. A musical note of a definite pitch is produced by a definite number of vibrations, and there is, consequently, a definite relationship existing between musical notes, and this forms a basis for the physical theory of music. Standards have been created by the use of tuning forks, yielding so many vibrations per second, A perfectly accurate standard is, however, a most difficult thing to obtain, for heat acts on the tuning fork by expanding it, and also by diminishing the elasticity of the metal, both effects agreeing in lowering the pitch. With a tuning fork giving out 512 vibrations per second at 20 deg. Cent., the variation is about 0·056 vibration per second for every Centigrade degree either way.

Bodies in a state of vibration can succeed in setting up vibration in bodies at rest under certain circumstances. Thus, if two forks, tuned to give the same note, be set up some few feet or yards away from each other, and one of them be sounded, the other will immediately vibrate in the same way, and emit the same note, even though it were not touched by the sounder. That is distinctly a mechanical result, paralleled in many other branches in physics. It is known as "consonance."

If a tuning-fork suspended in air be sounded, it gives forth but a very feeble note; if the stem of the same fork be held down on a table the sound is far louder and more pronounced. The sound may be reinforced by attaching the sounding-body to a dry, elastic slab of wood, which being vibrated by the sounding-body, communicates the motion to air over a broader field or larger area than the sounding-body itself could. The sound may be considerably reinforced also by the body emitting it being attached to a wooden box. This phenomenon is called "resonance."

Consonance and resonance are closely related to each other, but in round terms they may be distinguished in that, for consonance to be brought into play, it is necessary that two bodies shall vibrate in unison and the sound emitted from that one deriving the sound continues after that given from the exciting body; whilst with resonance the sound of the resonant body is merely reinforced and is practically simultaneous with that of the resonant body. Moreover, with resonance there is no bias in favour of any particular note, except in a very general way, for the sounding board strengthens the sound of a number of widely different and, it may be, complex notes. We have said that the sounding-board must be a dry, elastic slab of wood; obviously, the more readily the vibrations of the sonorous body are taken up the better, so we come to consider the elasticity of different kinds of wood.

Of course, all wood is elastic; the questions are, is it homogeneously elastic? and how far is each principal kind elastic? We are not now so much concerned with sounding-boards for musical instruments as those for large halls and the like. In his experiments on timber Bauschinger ascertained that the elastic limit in tension almost coincides with the breaking point. The coefficient of elasticity was determined from the extension with a load of about one-third the breaking load. The coefficient of elasticity varies with the strength, increasing and decreasing with it. The bending tests on beams of the full useful section of the log showed generally that the strength and coefficient of elasticity varied directly with the density. The same observer found that the amount of moisture in the timber had a very great influence on its density and strength, so that comparative values could only be obtained by reducing experimental results to an uniform standard dryness, which he did in all future tests.

It was found that pieces cut near the heart of the tree are much weaker than those cut near the periphery; and this is connected generally, but not always, with less density in the wood near the heart. It follows, therefore, that as wood is not by any means homogeneous in structure, and that as the heart neither possesses the strength nor the coefficient of elasticity of those portions of the timber outside, we must, in the construction of a sounding-board, either not use the heart at all, or place it in such a position as that it shall not materially interfere with the sound vibrations induced within the board. This latter is a most difficult problem, for if only one board is to be used it must be a small one unless the heart is to be brought into requisition; the employment of a number of pieces of wood, however ingeniously constructed, cannot be as perfect a resonant substance as one piece. It may be suggested that other materials than wood may be used for the purpose, and so they often can—that largely depends on the class of sounding-board required; the student will see that such a question can only be satisfactorily solved when a true perception of the timbre of the sounding-body is grasped, and that must be taken in conjunction with the acoustic properties of the hall or theatre as a whole. In other words, where an interior has been suitably constructed, and the sound from the stage or platform has only to be slightly fortified (to minimise the effect of echoes, &c.) the sounding-board would not be seriously impaired on being properly made of several pieces of wood.

Returning to the subject of the elasticity of different kinds of wood, the following figures * may be useful:—

TIMBER.	Coefficient of Elasticity for Tension, tons per sq. in.	Tenacity along Fibre, tons per sq. in.	Crushing Strength along Fibre, tons per sq. in.	Coefficient of Bending Strength, tons per sq. in.
Spruce	714	5·54	—	4·91
Red Pine	750	5·80	2·59	3·71
British Oak ..	656	6·70	4·46	5·27
Indian Teak..	1,071	6·70	5·36	6·92
Ironbark	871	7·12	4·54	8·15
Blue Gum....	910	8·97	3·45	5·86
Jarrah	317	1·31	3·20	4·13

These figures are, doubtless, somewhat in excess of the actual coefficients and strength, as the experiments were made on small pieces of wood without flaws, which were specially selected.

Elasticity of wood, as shown by bending, has often been tested, especially by German observers. These indicate a range for red pine of 654–686 as coefficients of elasticity, 1·28–1·40 as elastic limits in tons per square inch; whilst for spruce we have 438–737 and 0·84–1·66 in tons per square inch respectively. The spruce must, all of it, have been of very bad quality, which clearly shows that where this material is used for lining purposes it must be carefully selected to bring out its acoustic properties to advantage.

American experiments show that yellow pine has coefficients of elasticity varying from 728-1,091 tons per square inch: white oak, 493-781; and old, seasoned white oak from 646-955 tons per square inch.

In selecting wood for sounding-boards the following points should be carefully attended to. Inasmuch as the object is to throw the sound out into the hall, and away from the board, the fibres ought not to be at right angles to the face of the board but parallel with it; in fact, what was said towards the end of the last article respecting the lining of partition walls largely applies here also. The more a body diverges from the form of a plate and approaches that of a rod the more is its resonance limited; it tends to strengthen a few notes only. We cannot get wood without fibre, and the fibres tend to act as rods, or conductors; therefore, *cæteris paribus*, we should search for a wood with as few pronounced fibres as possible. Then, again, seeing that density materially influences elasticity (which is the life and soul of the sounding-board), to get the most satis-

* Unwin: "The Testing of Materials of Construction," 1888, p. 397.

factory results the wood selected should not only be free from knots, but from the circular and semi-circular graining which ushers in the appearance of a knot.

We cannot enter now into details concerning the micro-structure of wood, but in general terms the microscope may be usefully employed in ascertaining the relative size of the cells forming the main fibres. Practically, all the cells will be found to be elongated, but for the purpose at present on hand, the wood having the least elongated cells in the chief fibres will be found to be best. The sole object is to get the board to vibrate readily, and, as far as possible, all its parts should vibrate in unison; any kinks, knots, or other irregularity of grain (in fact, any want of homogeneousness) tend to set up minor vibrations counter to the chief set of vibrations which impair the value of the wood from the point of view of inductive vibrations.

The phenomenon of the "interference of sound" is peculiar in its effects, but may be readily understood. Atkinson remarks that if two waves of sound of the same length proceed in the same direction, and if they coincide in their phases, they strengthen one another; if, however, their phases differ by half a wave length, they neutralise each other and silence is the result. If the notes are different and are not quite in the same phase, they alternately weaken and strengthen each other and are said to "beat" with one another. The beating of sounds affects the sense of hearing in a somewhat similar manner to the eye affected by a flickering light—there is an absence of steadiness. The phenomenon, however, has its uses for the musician—chiefly for tuning purposes.

OBITUARY.

Mr. J. T. Meredith. — The death occurred suddenly, on the 10th inst., of Mr. J. T. Meredith, architect, of Kidderminster. Mr. Meredith was sixty-three years of age.

Mr. G. de Nyst Clark.—On the 10th inst., at Mundesley, Norfolk, the death took place of Mr. G. de Nyst Clark, a partner in the firm of Messrs. Patman & Fotheringham. The business of the firm will be carried on as before.

Mr. James F. Sinnott.—On Monday morning Mr. James F. Sinnott, architect, Liverpool (Messrs. Sinnott, Sinnott, & Powell), was drowned at Eastbourne. The deceased leaves a widow and two children.

GENERAL BUILDING NEWS.

St. Cuthbert's Church, Middlesbrough.—The plans for this church, the foundation-stone of which has just been laid, were prepared by Mr. Temple Moore, of London. The church has been designed with a view to its position at the junction of Newport-road and Ayresome Grange-road. The plan consists of a wide nave and chancel, five bays in length, with narrow aisles and passages on the north and south sides, and round the east end behind the altar. There is also a western aisle of considerable width, into which the doorways of the north and south-western porches open. The Lady Chapel and vestries are placed to the eastward of the eastern aisle or ambulatory, and are designed so as to fit into the triangular piece of ground formed by the junction of the two roads. The organ chamber is placed over the large south-eastern porch. There is no structural division between the nave and chancel, the latter being enclosed by a low screen or wall. The east window, which rises above the arches of the eastern ambulatory, consists of seven lights. There is also a circular west window over the western aisle of the nave. Externally, the church is faced with stone, and the roofs will be covered with stone, slate, and red tiles. The contractors for the work are Messrs. Allison Bros., of Middlesbrough.

Proposed Restoration of Runwell Parish Church, Essex.—It is proposed to restore this building, under the supervision of Mr. W. F. Unsworth, architect. The work proposed to be done comprises the enlargement of the chancel, the building of a vestry, the opening of the roof (now plastered), the restoration of the rood screen and south porch, &c.

Proposed Restoration of St. George's Church, Leeds.—An appeal has been issued for funds for the restoration of St. George's Church. It is stated that the roof of the church is in bad condition, and it is absolutely necessary that serious structural repairs be undertaken at an early date. Mr. Henry Walker, architect, Leeds, has examined the building, and made a report in regard to it. The restoration scheme comprises:—(1) The thorough cleaning, painting, and decoration of the interior of the church; (2) a new roof; (3) new pews for the body of the church; (4) electric lighting; (5) the construction of an apse at the east end (in which the painting by Cope will retain its place over the holy table); (6) more commodious vestry accommodation; and (7) the rearrangement of the heating apparatus. To carry out the whole scheme, for which the requisite faculty has been obtained, will involve an estimated outlay of 5,000*l.*

Catholic Church, Howth, Co. Dublin.—A Catholic church is being erected at Howth, the architect being Mr. W. H. Bryne.

Church, Aghadowey, Co. Derry. — The memorial stone has just been laid of the new Church, St. Mary's, Aghadowey, in Coleraine parish, county Derry. Mr. O'Shea, Belfast, is the architect, and Mr. J. M'Nally, Cookstown, the contractor of the building, which is constructed of local black stone, relieved with selected Dungannon cut stone dressings.

New Church, Trim, Co. Meath.—The Church of St. Patrick, at Trim, is now complete except the interior work. The walls and roof were built at a cost of 10,000*l.* The remainder of the work is estimated to cost about 5,000*l.* Mr. William Hague, of Dublin, is the architect, and the contract was given to Mr. Patrick Nolan, of Monaghan.

Worstead Church, Norfolk.—It is proposed to restore this building, and Sir Arthur Blomfield, who has prepared plans for the restoration, reports that the work immediately necessary or desirable in the future may be divided into two main sections—first, structural works needed to put the whole building into a thorough state of repair, and as far as possible to arrest the progress of decay; secondly, to carry out works which will have for their object the permanent improvement of the interior of the building. In the first section the first thing to be done is to put the roofs throughout into a thorough state of repair. It will require a sum of not less than 3,000*l.*, says Sir Arthur Blomfield, to restore to the church some faint reflection of its former glories.

St. Margaret's Church, Finglas, Dublin.—The foundation-stone has just been laid at St. Margaret's, Finglas, of a new church. The architect of the church is Mr. G. L. O'Connor. The nave is to be 80 ft. long by 32 ft. wide, with chancel, sacristies, &c., and is capable of accommodating 400 persons. A porch will form the principal entrance at the west side of the church, facing the roadway.

Restoration of St. Mary's Church, Cowes.—The restoration of St. Mary's Church, Cowes, Isle of Wight, has just been completed. The work was carried out under the superintendence of Mr. Herbert R. Lloyd, architect, of Birmingham.

Episcopal Mission Church, Dundee.—A new church is to be erected for St. Paul's Episcopal Church, Dundee. The church is on the level of Blackscroft, in which is the main entrance. Seated for about 300, it will have a small chancel at the south end, with organ chamber and vestry. At the north end the plans show a recessed baptistry and two mission rooms, with caretaker's house above. Below the church, and entering from Foundry-lane, there will be a hall with the same accommodation as the church, and provided with retiring and cloak rooms. The building is to be carried out in a combination of red brick and stone, with green slates. The architect is Mr. T. M. Cappon, Dundee.

Wesleyan Church, Overstrand, Cromer.—Several memorial bricks of a new Wesleyan church have just been laid at Overstrand. Building operations are in the hands of Mr. G. Riches, jun., of Cromer, and Mr. Edwin L. Lutyens is the architect. The chapel will be of red brick.

Wesleyan Sunday School, Embsay, Yorkshire.—The memorial stones have just been laid at Embsay of a new Wesleyan Sunday school. The following are the contractors: builder, Mr. S. Witham, Crosshills; joiner, Mr. T. Thornton, Skipton; slater, Mr. T. Throup, Cononley; plumber, Mr. G. H. Mason, Skipton; plasterer, Mr. T. Bailey, Skipton. The architect is Mr. J. Hartley, of Skipton.

Wesleyan Church, Scunthorpe.—On the 10th inst. the foundation-stones of a new Wesleyan church were laid at Scunthorpe. The cost of the land and building is 6,293*l.*, and the contract for the work is let to Messrs. Kelsey & Son, of Goole, for 4,193*l.*, the architect being Mr. J. M. Dosser, of Hull.

Free Church Hall, Laurencekirk, Kincardineshire.—A new free church hall is to be erected at Laurencekirk. Mr. D. Wishart Galloway, of Brechin, is the architect. The hall will be 36 ft. by 22 ft. 6 in. The contractors for the work are as follows:—Mason, Mr. David A. Crabb, Brechin; joiner, Mr. Dunbar, Laurencekirk; plumber, Mr. Rae, Laurencekirk; plasterer, Mr. Hood, Laurencekirk; and slaters, Messrs. James Scott & Sons, Brechin and Montrose.

Schools, Middlesbrough.—New Board schools are being erected at Middlesbrough at the corner of Marton and Borough roads. The frontage to Marton-road is about 330 ft., that to Borough-road about 165 ft., and that to the street running parallel to Marton-road, 275 ft. The architect of the building is Mr. J. Mitchell Bottomley, of Middlesbrough. The site has been divided into two sections, and the more southern part has been reserved for the erection of a separate infants' school. The building now being erected on the northern and larger part of the site is for a school for about 1,000 children, in a part of which the infants will be accommodated for the present. The new school is built of brick, with dressings of red stone. It is two stories in height, and is on the central hall principle. The class-rooms are arranged along the sides of the halls, and are lighted from the north and south; the entrances, of which there are four, are placed at the ends of the building, the ground floor being entered immediately from the playgrounds, and the first floor by wide stone staircases. Lavatories and cloak-rooms are provided closely adjoining the entrances. The whole of the class-rooms are lighted from the left side, and are fitted with dual desks. The class-rooms are divided from the central halls by piers and arched openings, which are fitted with glazed partitions. Glazed bricks are used round the walls to a height of 4 ft. above the floors, and above this height the walls are covered with non-absorbent plaster. The warming is by low-pressure hot-water system, and has been executed by Messrs. Dinning & Cooke, of Newcastle-on-Tyne. The ventilation is provided for by extract flues carrying the foul air into the ventilators fixed in the turrets on the roofs. Open fireplaces are provided in each class-room. Rooms are provided for the head and the assistant teachers in the mezzanine floors. The playgrounds have been covered with asphalte by Mr. Mullen, of Middlesbrough. Covered play-sheds are provided along the east boundary, together with latrines. The contract for the whole of the work, amounting to 11,713*l.*, was secured by Messrs. Allison Bros., of Middlesbrough; the plumbing work has been done by Messrs. Baker Bros., the plastering by the late Mr. Tomlinson, the slating by Mr. Tyreman, and the painting by Messrs. Taylor & Sons. Mr. John Johnson, of Middlesbrough, has acted as clerk of the works.

St. Polycarp's School, Everton.—Alterations to these schools have just been carried out, and the buildings have been reopened. The boys' school-room has been divided into class-rooms, and Wilk's "climax" sliding partitions have been provided, so as to make the school-room available for meetings. In addition to this, a false roof, or ceiling, has been put in, together with new ventilating apparatus. A new system of heating has also been fitted throughout the whole schools. The ventilating and heating arrangements were carried out by Messrs. Dargue, Griffiths, & Co., Limited, of Liverpool. The whole of the work was carried out under the supervision of Mr. T. Taliesin Rees, architect, of Birkenhead.

Board Schools, West Stanley. — The new Board schools which have been built by the Tanfield School Board in Front-street, West Stanley, have just been opened. There is a total accommodation for 797 children. The plans were prepared by Messrs. Davidson & Bendle, Newcastle; and the contracts were carried out by: Mr. A. Routledge, West Stanley, mason work; Mr. T. Robinson, Burnopfield, joiner work; Messrs. Wilkinson & Co., Newcastle, the concrete work; and Messrs. Dinning & Cooke, Newcastle, the hot-water apparatus. The total cost is about 3,600*l.*

Alterations to Restaurant Buildings, Aberdeen.—For some time alterations have been in progress on the buildings at the corner of Union-street and Back Wynd, Aberdeen, occupied for many years as the Queen's Restaurant, &c. The alterations involve the reconstruction practically of the whole interior, as well as some considerable changes to the exterior of the buildings. Henceforth the three floors, besides the basement, are to be devoted to the purposes of a first-class restaurant and catering establishment. The architect for the alterations is Mr. A. Marshall Mackenzie, A.R.S.A.

Choir Stalls, St. Mark's Church, Wrexham.—New oak choir stalls have just been dedicated at St. Mark's Church, Wrexham. They have been erected by Messrs. Harry Hems & Sons, of Exeter, the architect being Mr. J. H. Swainson, of Wrexham.

Public Baths, Loughborough.—The public baths, which have been erected in Island House Park, Loughborough, as a memorial of the Queen's Diamond Jubilee, have just been opened. The building has been faced externally with local red pressed bricks, supplied by Messrs. G. Tucker & Son, with terra-cotta dressings from Ruabon, North Wales. The structure is covered with small grey slates. The principal entrance to the baths is from the centre of the front elevation, through a vestibule having a panelled ceiling, and divided from the inner hall by a glazed screen. From this entrance-hall, which is paved with Hopton Wood stone, access is obtained to the large swimming bath, and to the corridors leading to the private slipper baths, the office being arranged on the left-hand side at the entrance. There are nine private slipper baths—four first-class being to the left of the hall, and five second-class to the right. These private baths are divided by pitch-pine partitions, each having a separate window and ventilating Tobin tube. At the end of the first-class baths the laundry and ironing rooms are arranged, whilst at the end of the second-class baths is an emergency exit, together with a staircase leading to the gallery for spectators in the large bath. The swimming bath has a water area of 80 ft. by 30 ft., with a depth varying from 6 ft to 3½ ft. It is surrounded by a cement concrete path, having a coloured concrete kerb. There are thirty pitch pine dressing-boxes on one side and end. The dimensions of this hall are 94 ft. by 42 ft. The roof is an open pitch pine one, supported by light iron principals, and surmounted by a lantern light the full length of the building. There are windows on each side. The bath is lined throughout with white glazed bricks, having at intervals lines of blue glazed bricks A diving stage has been erected at

the deep end, and at the opposite end over the dressing boxes is a pitch pine gallery capable of holding about 150 people. At the east end of the swimming bath are soap and spray baths, boys' dressing-room and lavatory. The two latter are lined with glazed bricks, and have floors of concrete. At the rear of these auxiliary departments is the boiler house, with an octagonal chimney stack 60 ft. high, and a stove yard. The several contracts for the baths were entrusted to Messrs. T. Barker & Son; the contract for the heating was placed with Messrs. Messenger & Co., Limited; and the baths have been designed and carried out under the personal supervision of the architects, Messrs. Barrowcliff and Allcock.

HOTEL, MULLION, CORNWALL.—A new hotel has just been opened at Mullion Cove, Cornwall. It has been erected from plans prepared by Mr. Sampson Hill, architect, Redruth. It has three sea frontages. The hotel is lighted by electricity, which has been laid on by Messrs. Veale & Co., Limited, St. Austell. At the rear of the main building there is a large picnic room 42 ft. by 16 ft., with coal stores, &c., below, and extra bedrooms above. The building has been erected by Messrs. Winn & Son, of Helston.

NEW THEATRE, MARGATE.—This theatre—the Grand—is situated in Cecil-square and Cecil-street. The building, which has undergone many external and internal alterations, was, till recently, the Royal Assembly Rooms. Sitting accommodation has been provided for 1,800 persons. The decorations are in gold and light blue, and the mosaic ceiling is similarly ornamented. From all parts an uninterrupted view of the stage, which is 60 ft. wide by 40 ft. deep, can be obtained. The decoration and seating are by Mr. Dean (Birmingham). Mr. Hope was the architect, and Mr. Davidson the contractor.

PAVILION HOTEL, FOLKESTONE.—The Royal Pavilion Hotel, Folkestone, has been considerably extended, and on the 6th inst. the addition was opened. Accommodation is now provided for 200 guests, and when the remaining wing is rebuilt there will be room for thirty more visitors. The furnishing and decoration have been carried out by Messrs. Maple & Co., of Tottenham Court-road. Colonel R. W. Edis, F.S.A., is the architect.

CARDIFF CUSTOM HOUSE.—The new Custom House, Cardiff, which is in course of erection in Bute-street, near the Pier Head, will be completed about the end of next month. The building is being erected at a cost of about 4,800*l.* by Messrs. W. Thomas & Co., of Cardiff, from the design of Mr. Tanner, architect to H.M. Office of Works, London. It is three stories high, the front which faces Bute-street being in Portland stone, while the side and rear are in white brick, partly relieved with Portland stone dressings. The entrance is from Bute-street, by means of a fore-court at the side nearest the pier head. On the ground floor in front is situated the office of the Chief Preventive Officer and Surveyor, having immediately behind it the book-room. At the rear of the premises on the same floor, and reached by a corridor leading from the entrance hall, are the Queen's warehouse and watchers boatmen-room, while a yard at the rear of the premises opens on to the West Dock. The first floor is devoted, in front, to the testing-room, which overlooks the street, and to the store-room immediately behind, and at the rear to the collector's office and long-room. The top story has been set apart for the caretaker and domestic offices, while in the basement are the heating-chamber, wood and coal stores, &c. The offices on the ground and first floors are laid with wood block flooring, and on the ground floor the entrance hall and corridors are laid with York paving. The clerk of the works is Mr. M. Pickett.

BUILDING IN RAVENSTONEDALE, WESTMORELAND.—A house, with stable, has been built in this village for Mr. Carver, who is now building model cottages. A new hostel, which will follow immediately, will be built of stone, on the lines of the old "Manor houses" in the neighbourhood. A stone staircase leading from the roadway to a public room for sales, &c., will be made a feature, having an oak gallery over. Homesteads and farm buildings for the estate have also to be built. The work is in the hands of the architect, Mr. Robert Walker, of Windermere.

VILLAGE HALL, HALKYN, FLINTSHIRE.—This building has just been opened by the Duchess of Westminster. The hall, a building of local stone, is from a design by Messrs. Douglas & Minshull, architects, Chester, the contractor being Mr. A. B. Lloyd, builder, Flint. The cost of the building was about 950*l.*

DOWN DISTRICT ASYLUM.—The building of the new wing to this asylum is, says the *Belfast News-Letter*, rapidly approaching completion. The building, which is similar in general appearance to the present west wing, is built of red brick, obtained from the Lagan Vale estate. The new works comprise a dining hall, with a waggon roof of pitch pine; dormitories, padded rooms, boiler and engine-house, foul laundry, with patent hydro-extractor. All the floors of the sanitary annexe are of concrete, supported by iron beams. The large dormitories measure 60 ft. by 24 ft. The architect is Mr. P. C. Cowan, C.E., Mr. Samuel Heron is the clerk of works, and Mr. J. A. Gordon, of Newtownards, is the contractor.

EXTENSION OF THE SHIREHALL, WORCESTER.—The extensions recently carried out at the Worcester Shirehall provide some fifteen additional offices and rooms. This added accommodation is gained by raising the wings on the north and south sides one floor, and extending the south wing eastward. The floors and roofs are of fireproof construction, by Messrs. Homan & Rogers, and the roof is covered with asphalte. A complete system of fire mains and appliances has been laid down in connexion with the entire buildings. The whole of this work, also the heating generally, was carried out by Messrs. Ward & Son. The offices and corridors are lighted by electricity, the installation and work connected therewith being carried out by Messrs. Keen & Co. The builders' work has been executed by Messrs. J. Wood & Sons, of Worcester, and the work generally has been carried out from plans prepared by and under the superintendance of Mr. A. B. Rowe, on behalf of the County Surveyor, Mr. Henry Rowe.

NEW POLICE-COURT, PENGE.—On the 16th inst. a new police-court was opened at Penge. Mr. G. Elkington was the architect. In addition to a large court-house there are offices for magistrate's clerk, consulting-room for solicitors, &c.

SANITARY AND ENGINEERING NEWS.

SEWERAGE DISPOSAL, CHELTENHAM. — Colonel J. T. Marsh, R.E., Local Government Board Inspector, held an inquiry at Cheltenham on the 12th inst., into an application by the Cheltenham Town Council for sanction to borrow 13,410*l.* for purposes of sewerage and sewage disposal, and for the appointment of an inspector to make an inquiry into the matter of certain works of sewerage and sewage disposal, which the said Council propose to construct, without the limits of the borough, and into certain objections which have been received thereto. Mr. Hall, Borough Surveyor, stated that in 1896 he reported on the state of the sewer from the Arle tank to the Barnfarm. He found the pipes unjointed and the gradients irregular. Roots had penetrated the joints, reducing the carrying capacity of the sewer by two-thirds. Complaints had been made by the tenant of the farm of the diminution in the supply of sewage, and compensation had been granted him. The improvements proposed would increase the carrying capacity to 1,350 gallons per minute. Similar facts were cited in connexion with other parts of the scheme. The inspector afterwards visited the districts affected.

NEW RAILWAY STATION, ELGIN.—A new railway station is to be erected at Elgin according to plans by Mr. P. M. Barnett, C.E., Engineer-in-Chief to the Great North of Scotland Railway Company. The contractors are: Masons' work, W. Jamieson, Elgin; carpenters, A. & R. Dunbar, Elgin; slater, John Barclay, Buckie; plumbers, Blaikie & Sons, Aberdeen; plasterer, Mr. Gray, Elgin.

SEA ENCROACHMENT AT DEAL.—The Corporation of Deal have had under consideration for some time the question of the sea encroachment, and they have now decided to proceed with new works of sea defence near Sandown Castle at the north end of Deal. The Surveyor to the Corporation stated that unless these works of defence were undertaken at once the encroachment of the sea would undermine the existing wall and cause it to collapse. The urgency of the matter was also emphasised by the Town Clerk, who said he had visited the spot, and the state of things so alarmed him that he had written to the Board of Trade pointing out that the whole of Deal was likely to be submerged if the wall went. The sea wall was much damaged by the heavy gales of several months ago, which carried away the shingle to such a depth as to leave the foundations exposed.

A DERBYSHIRE WATER SUPPLY.—During the past few months negotiations have been proceeding between the Belper Urban District Council and Mr. J. B. Marsden-Smedley, J.P., proprietor of the Dethick estate, for the acquisition of a water supply. It will serve the villages of Holloway, Crich, South Wingfield, Pentrich, and probably others. The population is about 7,000, and provision has to be made for 60,000 to 70,000 gallons per day. Mr. Firth, C.E., of Baslow, is the engineer concerned, and he has gauged two springs on the Dethick estate, which yield about 200,000 gallons per diem. The agreement was laid before a special meeting of the Belper Council recently, and received the seal of the Authority.—*Nottinghamshire Guardian.*

FOREIGN.

FRANCE.—The Paris Municipality have not found any private contractors willing to take up the work for the Metropolitan Railway, and have determined therefore to have it carried out by their own staff of the "Voie Publique" service.——The railway station at Vincennes is being enlarged in view of the traffic for the Paris Exhibition, and it is even proposed to establish an annexe of the Exhibition there.——The General Council of the Seine have under consideration a scheme for a canal between the Marne and the Seine.——A new Post and Telegraph building is to be erected at Orléans.——In carrying out some building work near the Prefecture at Angers, a carved stone coffin of the sixth century has been discovered.——Some paintings of the fifteenth century have been discovered on the walls of the cathedral of Saint Dié, which have been previously concealed by woodwork of a later period. They are unfortunately much decayed.——At Bar-le-Duc, on Sunday last, was inaugurated the statue of Maréchal Exelmans, the work of MM. Roussel & Peynot, sculptors.——The landscape-painter Eugène Boudin, has died, at Deauville, at the age of 73. He was born at Montpellier, and was a painter of great merit, who devoted himself almost entirely to painting the coast scenery of Normandy and Brittany.——The death is also announced at the age of 78, of a now almost forgotten artist, Eugène Gluck, who had however a reputation in his day. He attracted a good deal of notice in the Salon of 1844 by his picture of "the Jews and the Amalekites." He subsequently devoted himself to landscape, and also painted subjects for tapestries and faïence. —— The Historic Society of Passy intended to commemorate the arrival and reception of the Emperor and Empress of Russia in Paris by a monument to be erected near the railway station at Passy, for which M. Gustave Michel had already made a model. The Municipality, however, have refused to grant a sufficient site, and there is only to be a commemorative tablet erected on the spot where the Imperial party were received on leaving the railway.

MISCELLANEOUS.

ST. BARTHOLOMEW'S HOSPITAL, OXFORD.—The Charity Commissioners have lately held an inquiry into this ancient charity. They are of opinion that the authorities of Oriel College are still bound to provide lodging for the almsmen, to repair the hospital, and find a chaplain, and that the college, after paying the almsmen certain sums specified in the grant of 1328 and discharging other obligations, will be entitled to share in the profits of the property. The Commissioners have negotiated in the matter with Oriel College, and in the result have stipulated that the hospital chapel shall be reserved for such uses as they may by scheme provide; the other hospital buildings—whose site the college proposed to devote to building purposes—will, it appears, remain for the present, though without returning to their former uses as an almshouse.

ELECTRIC LIGHT, SALFORD.—Lieutenant-Colonel Albert C. Smith, representing the Local Government Board, held an inquiry at the Salford Town Hall on the 28th ult., into an application by the Salford Corporation for power to borrow 33,000*l.* for purposes of electric lighting and 2,200*l.* for the construction of storm-water overflows on the main intercepting sewer at Hough-lane, Springfield-lane, and Regent-road. From the opening statement of the Town Clerk and the evidence of the Borough Treasurer, the Electrical Engineer (Mr. C. L. Turner), and the Chairman of the Electricity Committee of the Corporation, it appeared that 57,770*l.* has been already borrowed for the purposes of the electric installation, and that of the 33,000*l.* now sought to be borrowed, £10,000 is required for land for a large new generating station at Strawberry Hill, Pendleton, 10,700*l.* for electrical mains, and 11,300*l.* for three battery sub-stations in the different districts of the borough, together with accumulators and the necessary machinery for charging and discharging the accumulators. With regard to the 2,200*l.* required for storm-water overflows, Mr. J. Corbett, the Borough Engineer, stated that on the intercepting sewer by which the sewage of the borough was carried to the sewage works at Mode Wheel there are at present three storm overflows. The additional overflows now proposed to be constructed were for a part of the sewer that was in the most populous part of the borough. At that point there were four and a half miles of intercepting sewer without any overflow to the main sewer, although there were some small overflows to the individual sewers. Frequent complaint had been made about the flooding of the district, and it was felt that something ought to be done to remove all cause of complaint.

PUBLIC IMPROVEMENTS, ILFRACOMBE.—Ilfracombe Council has decided to still further add to the recreation grounds of the town by the purchase, for 1,200*l.*, of a field at the west end—Bicklescombe—not far from Cairn Top, which will be turned into a sports ground. Having exchanged sites with the Wesleyan body, in order to extend the Ropery meadow in front of the Victoria Pavilion, the Council have been compelled to consider the advisability of widening the present markets, the new Wesleyan chapel having been built on one of the departments. A scheme has been prepared whereby the present markets can be doubled at a cost of about 5,000*l.* There will be two markets, instead of the three as before, the space on the ground floors being increased from 5,800 sq. ft. to 11,700 ft., whilst there will be an additional space of 2,280 ft. provided in a 15 ft. gallery which will run round the second or lower market. The Council will shortly embark upon a drainage scheme, two being submitted by Mr. Mansergh, one at a cost of 20,000*l.* and the other 30,000*l.*

ANTIQUARIAN FIND, WISHAW, LANARKSHIRE.—There has recently been discovered in the Cam'nethan Old Churchyard, Wishaw, a number of stones of considerable archæological value. One in particular is of great interest, as it dates back to the period prior to the Norman invasion. To Mr. Alexander Napier, Wishaw, is due the credit of this

discovery. While searching in and around the churchyard for botanical specimens, he observed stones with quaint carvings. On making further search he discovered, lying half buried, a stone which, from the carvings on it, he concluded would probably be about 1,000 years of age, and of considerable antiquarian interest. The stone is 27 in. high, 16¼ in. broad at the base, and 14¾ in. at the top. In the centre there is a carving which at first sight appears very like a rude attempt to imitate the familiar coat of arms of the Manx, but instead of three there are four legs, and these are arranged so as to form a square. Underneath this, and standing 9¼ in. from the ground, is a group of four figures. At the top is plaited work. Both sides of the stone seem to be similar in design, but it is broken and somewhat defaced.—*Edinburgh Evening Dispatch.*

CHURCHYARD MEMORIAL, MARWOOD, DEVONSHIRE.—A monument has just been erected in the churchyard of St. Michael's, at Marwood. The monument, which is to the memory of the late Mrs. Jury, is of white marble, and consists of a base of three steps, upon which stands a Calvary cross, in front of which is a colossal angel, sculptured in a solid block (angel, steps, and cross alike). The statue and its surroundings and accessories have been carried out by Messrs. Harry Hems & Sons, of Exeter.

ALTAR, ST. MACCUILLIN'S CHURCH, LUSK, CO. DUBLIN.—A new high altar and two side altars have just been dedicated in the Church of St. Maccuillin's, Lusk. In the last four years the building has been refloored, new altar railings have been erected, new Stations of the Cross have been placed on the walls, and the sanctuary is now lighted on each side by two lancet windows, from a design by Mr. J. J O'Callaghan, architect, Dublin. The design and execution of the work in connexion with the high altar was entrusted to Messrs. Early. One of the side altars is dedicated to the Sacred Heart and the other to the Blessed Virgin. Over the altar dedicated to the Blessed Virgin is a picture of the Annunciation, and the altar of the Sacred Heart is also surmounted by another painting.

COLLAPSE OF AN EDINBURGH BUILDING.—An accident occurred in Edinburgh on Saturday last at a three-storied tenement, adjoining a building which had been demolished. Suddenly the tenement collapsed, and the wreckage fell on the shops beneath, smashing the stock, but the occupants got out in safety.

THE KELMSCOTT PRESS, HAMMERSMITH.—We learn that Mr. C. R. Ashbee has undertaken to design a fresh fount of type for uses of the Kelmscott Press, the plant and presses having been purchased by the Guild of Handicraft from the executors of the late William Morris, and that among the first books to be issued will be Mr. Ashbee's translation of Benvenuto Cellini's treatises upon metal work and sculpture, with the illustrations (by arrangement) in M. Eugène Plon's book upon Cellini, the "Pilgrim's Progress," the poems of Burns, an illustrated description of the Guild's work, and accounts of famous buildings, as issued by the Committee for the Survey of the Memorials of Greater London. Morris's birthplace, a house on the Winns Estate, Walthamstow, has just been acquired by the local Council, who will convert the estate into a public recreation ground.

NO. 16, CARLTON HOUSE-TERRACE.—This house is offered for sale. It was erected for the late Alfred Morrison, and decorated for him by Jackson & Graham. The decorative work was designed by Owen Jones, who completed it shortly before his death on April 19, 1874. The designs and drawings had been exhibited in the Vienna Exhibition. They constitute the most important scheme of interior decoration carried out by Owen Jones in conjunction with the firm we mention, and may be compared with their joint work, also for Alfred Morrison, at Fonthill House. The scheme comprised the woodwork of the window-shutters, dado, doors, architraves, and panelling in the two entrance halls; the staircases, the ground and first-floor rooms—all being inlaid with different assorted woods; various chimney-pieces, grates, fenders, carpets, and wall-hangings, together with numerous articles of furniture, cabinets, and so on, in the style with which his name is so especially associated. The house is held from the Crown for an unexpired term of sixty-three years.

THE PROPOSED CARTWRIGHT MEMORIAL AT BRADFORD.—A meeting of the Cartwright Memorial Committee of the Bradford Corporation was held on the 12th inst. at the Town Hall, Bradford. Four block plans for the proposed new Memorial Hall in Lister Park were submitted by Mr. J. H. Cox, City Surveyor, and it was ultimately decided to submit the whole to Lord Masham for him to select the one of which he approves. The question of site will thus be settled, and it will remain for the Committee to secure competitive designs from architects before carrying out the scheme.—*Yorkshire Post.*

RUSSIAN ANTIQUITIES.—A Kieff paper reports some interesting archæological discoveries recently made in that province on the estate of M. Khanenko, where there are several of the *kurgans*, or turtle-backed burial grounds, so common in many parts of Russia. The chief find was a cup, in form and design identical with the unique cup from Kul'-Ob', and unique itself in that it is of gold. A well-preserved Greek vase, with scenes from the mythology, and three gold plates for decorative purposes' engraved with, amongst other subjects, strange animals similar to those found on plates dug up in the province of Perm and in Siberia have been discovered. The greater number of the *kurgans* proved to have been already ransacked, but the discoveries, as described by the paper, appear to have been many and important. A Greek bronze helmet, with traces of gold inlaid work, was found close to the skeleton of a Scythian warrior, who lay with his bronze arrows and quiver strewn about him, and a slave lying across at his feet. Several skeletons of women were unearthed, all having ornaments of various metals about them. One lay beside a large oval slab of stone, evidently intended for sacrificial purposes. The largest of the burial places found beneath the *kurgans* has not yet been examined, so it is probable other finds may be made. The above objects, and many others, go to enrich M. Khanenko's private museum.—*Birmingham Post.*

CAPITAL AND LABOUR.

THE BRISTOL BUILDING TRADE DISPUTE.—In connexion with the termination of the Bristol building tradé dispute, a specially convened meeting of the Master Builders' Association was held on the 10th inst., at which recommendations of a committee of the Association were considered. Mr. C. A. Hayes presided, and, on the motion of Mr. E. Walters, seconded by Mr. George Wilkins, the following resolution was agreed to:—"That, as the Bricklayers' Society has eventually accepted the mediation of his Honour Judge Austin, the members of the Bristol Master Builders' Association are prepared to act upon his Honour's suggestion—viz., to give the rise in wages forthwith; and as the federated trades and the Masons' Society have honourably stood by the award of the Board of Trade arbitrator (Mr. A. A. Hudson), the committee of this Association is prepared, as an act of grace, to recommend its members to grant a similar concession to those trades after next pay day."

THE LANCASTER STONEMASONS' DISPUTE.—The strike of Lancaster stonemasons, which has lasted fourteen weeks, has been ended. On Wednesday last week the men received an intimation from the executive of their society that the strike must end, and that no strike payments would be made after last week. A conference of masters and men was therefore held, and adjourned until the 12th inst., when a basis of settlement was agreed to, the lines laid down by the Manchester conference being decided upon. The men are to receive 9d. per hour at once, and an extra ½d. per hour next March, a question of short time in February being left to settle itself according to light.

SETTLEMENT OF THE BOLTON PLUMBERS' DISPUTE.—The dispute in the plumbing branch of the Bolton building trade has been settled and work resumed. The dispute had reference to the engagement of a number of Liverpool metallic pipe fitters at the Bolton residence of Mr. W. H. Lever, the Bolton men's allegation being that these workmen were doing work which should only be carried out by a certified plumber. The men from Liverpool were fitting a number of pipes at this particular mansion, and because a Bolton master plumber was doing the other plumbing work there the men were withdrawn from his establishment. The masters contended that this was a clear contravention of the rules agreed to between them and the men's society, and locked out the whole of the men in Bolton. The settlement has been brought about by the withdrawal of the Liverpool men from the job, but the work is being carried out by a Bolton plumber, under the supervision of the Liverpool firm affected. About 100 men were affected by the dispute, and they have been receiving from the society lockout pay.—*Manchester Courier.*

LEGAL.

FELT DAMP-PROOF COURSES.

AN appeal by Mr. Smith, a builder, of Edmonton, was heard at a special sitting of the Middlesex Sessions recently. The appellant was fined 5*l.* at the Tottenham Petty Sessions last May for laying a felt damp course in several houses in a new street off Gilpin-grove, Edmonton, which the Justices held was contrary to the following by-law of the Edmonton Urban District Council:—"Every person who shall erect a new building shall cause every wall of such building to have a proper damp course of sheet lead, asphalte, or slates laid in cement or other durable material impervious to moisture, &c." Mr. Kemp, Q.C., Mr. Hume Williams, and Mr. W. W. Grantham represented the appellants, and Mr. Macmorran, Q.C., and Mr. Glen appeared for the District Council.

The case was re-opened by Mr. Macmorran, who first called the Building Inspector of the Council, Mr. Cross. This witness said he saw the damp-course after it was laid. He had previously warned Smith not to use the felt, as summonses had already been taken out against him for laying a felt damp-course in other houses. (These proceedings took place last year, and resulted in the conviction of Smith, but there was no appeal in respect of that.) Witness saw no trace of cement under the felt. He was of opinion that the felt was not a suitable material for a damp course.

Mr. G. Eedes Eachus, Surveyor and Engineer to the Council, said that the felt was an improper material for a damp-course. In his judgment it was not durable and impervious to moisture.

Cross-examined by Mr. Kemp, witness said that in parts of the buildings felt was laid without cement being used, either above or below. He did not know that in other districts felt damp-courses were permitted, but he had not the least doubt that they were used.

The Chairman (Mr. Montague Sharpe) asked witness whether, if the felt were laid in mortar, it would be impervious to moisture?

Witness: It would have to be the very best cement mortar, with very little sand.

Mr. George R. Crickmay, architect and surveyor, Westminster, said he visited the houses in which the felt damp-course was laid. He saw a small trace of mortar, but no cement, near the damp-course. He tested the felt, and was satisfied it would absorb a great deal of water, and would allow moisture to pass through. It would last for only a very short time.

Mr. Gordon, architect, Blomfield-street, E.C., said he immersed a sample of the felt in water for forty-eight hours, and found that it had increased in weight from 1¾ oz. to 3 oz. Such a material would neither be durable nor impervious to moisture.

Mr. H. W. Dobb, architect, London Wall, was also called and examined in support of the Council's case.

The defence was that as the houses were not of a very high-class character for letting purposes, money was of importance to the builder consistently with a due compliance with the by-laws. The Surveyor to the Edmonton Council desired that the builder should use an expensive material which was not insisted upon by the surveyors of other Councils, but experts and practical men were of opinion that the material which the appellant was using on the houses in question was perfectly fit for the purpose for which it was required. It was "a durable material, impervious to moisture," which was what the by-laws required.

Mr. John Harrison, architect, was called and said he specified the material for the buildings, as from his experience he thought it was very suitable for small property. It was largely used all over England, and he had constantly used it since 1869. It was used in the Borough of Windsor, at Egham, Fulham, Sydenham, Thornton Heath, Croydon, &c.

Mr. Otto Hehner said he had tested the material. One test was to immerse a piece in water for twenty-four hours; then, after hanging it up in the air for a short time, to allow the adherent water to drain off the surface, he weighed the material and found it practically of the same weight as it was before immersion. Another test was to affix a glass tube 5 ft. long, 1 in. in diameter, to the surface of the material, and then fill the tube with water so that there should be a pressure of water on the material. This test lasted for twenty-four hours, and on examining the material no absorption of moisture was perceptible.

Mr. William Baker, C.E., Mr. Arthur Hogwood, architect and surveyor, Mr. Reuben Knox, builder, and Mr. Wm. Schofield, builder, gave evidence in favour of the material, the latter stating that he had used it in Clapham, Battersea, and in Chancery-lane without any objection being made to it. The superincumbent weight of the building would tend to harden it and make it more impervious and durable.

Evidence of workmen on the buildings in which the appellant had used the material was likewise called to show that it was not laid on the bare bricks, but was embedded below and above in mortar, with which a proportion of cement was mixed.

The court retired for a few minutes, and, on returning, the Chairman said that having carefully considered the evidence for and against they were of opinion that the conviction must be upheld. The appeal would, therefore, be dismissed with costs.

ROBERTSON *v.* THE CORPORATION OF BRISTOL.

THE case of Robertson *v.* The Corporation of Bristol came before Mr. Justice North in the Chancery Division on the 11th inst., on a motion by the plaintiff *ex parte* for an injunction to restrain the Corporation of Bristol from throwing any part of a footway belonging to the plaintiff (the owner of a building estate at Bristol) in Robertson-road, St. George's, into the roadway. The Corporation alleged that they had power under Section 150 of the Public Health Act, 1875, to widen the roadway by throwing into it a portion of the footway.

His Lordship declined to grant an injunction *ex parte*, but gave the plaintiff leave to serve notice of motion before the Vacation Judge for Wednesday the 17th inst.

WIDDOWSON *v.* BARNETT.

AT the Birmingham Summer Assizes on the 11th inst. Henry Widdowson, of Witton-road, Aston, asked for an order for 78*l.* 2*s.* 6*d.* from David Barnett, of 51, Aston-road North, for work done. Plaintiff contracted with defendant to repair certain

houses in Oak-lane, West Bromwich. The work was to be done to the satisfaction of Mr. Devall, architect, Birmingham, and he duly gave his certificate that the work had been carried out properly. Defendant, however, contended that it was incomplete, and not according to contract, and refused to pay on the architect's certificate. His Lordship, however, awarded plaintiff the verdict for 70*l.* 18s. 6d., the amount due on the contract, without extras.

DISPUTE BETWEEN THE OWNER OF A BUILDING ESTATE AND THE CORPORATION OF BRISTOL.

THE case of Robertson *v.* the Bristol Corporation came before Mr. Justice Phillimore, sitting as Vacation Judge, on the 17th inst. It was an application by the plaintiff, Mr. Samuel Robertson, for an *interim* order restraining the defendants from interfering with a footway and curbing in a road on a building estate belonging to the plaintiff.

Council for the plaintiff said that in the year 1890 the plaintiff purchased a building estate in the parish of Easton in the jurisdiction of the St. George's Local Board, and he laid out that building estate in roads and various building plots, according to the by-laws of the Urban District Council of St. George's, which required plans to be deposited. The plaintiff accordingly prepared and deposited plans, showing how he wanted to lay out his building estate.

His lordship said that he had read the affidavits which had been filed and from them it seemed to be a very difficult matter to decide.

Mr. Glyn, for the Corporation, said that all the plaintiff wanted was for the Corporation to make the pavement a little wider than they proposed to make it under the provisions of the Public Health Act. The work was nearly finished and he suggested that the Corporation should finish such work, and if the Corporation were held to be in the wrong at the trial they could undertake to add to the pavement what the Court ordered. He suggested that his lordship should order the motion to stand till the trial on this undertaking being given.

Council for the plaintiff said that if this course were pursued it would be inconvenient for all parties because, if the Corporation were going to finish the pavement to the width they said they were, they would proceed with the sewering, channelling, and so forth. It would be exceedingly inconvenient to have the road up two or three times. The learned counsel said that the Corporation were entirely wrong in proceeding under Section 150 of the Public Health Act. The point was this: At the time the plaintiff laid out this estate he was within the jurisdiction of the St. George's Urban District Council, and he deposited his plans and made his roads. Those plans were approved, and then, in 1897, the St. George's Urban District Council was absorbed in the City of Bristol, and thereupon the city, without any notice to the plaintiff, commenced to lay out the street in, as it was said, a suitable manner to the City of Bristol. When the plaintiff laid out his estate he had a very good reason to lay out the road in question at the width he did, and which was even at a greater width than the St. George's Urban District Council required. The plaintiff required a handsome entrance to his estate. The whole place was now in a state of uproar and confusion, and if the defendants were allowed to finish the work as they proposed, and the matters in dispute were to stand till the trial, the plaintiff would suffer great inconvenience.

His Lordship said he could not agree with this suggestion of the learned counsel, and after some further discussion it was arranged that the motion should stand till the trial on the defendants undertaking to alter the pavement to the width which the Court should ultimately determine (if necessary).

Order accordingly.

ACTION AGAINST THE AËRATED BREAD COMPANY TO RESTRAIN BUILDING OPERATIONS.

MR. JUSTICE PHILLIMORE, sitting as Vacation Judge on the 17th inst., had before him the case of Stopp *v.* The Aërated Bread Company, Limited, which was a motion by the plaintiff to restrain the defendants from carrying on certain building operations, &c.

Mr. Alexander, Q.C., for the plaintiff, said that Mr. Jennings, who appeared for the defendants, was willing to give an undertaking in the terms of the notice of motion extending over the 26th inst. when the motion would be on.

Mr. Jennings said he would give the undertaking mentioned.

His Lordship: Very good.

Order accordingly.

MEETINGS.

SATURDAY, AUGUST 20.

Northern Architectural Association.—Visit to Flour Mills, Dunston.

RECENT PATENTS:

ABSTRACTS OF ACCEPTED SPECIFICATIONS.

Open to opposition until September 27.

[1897.] 16,780.—ROOFS AND ROOFING: *F. Beer, jun.*—To obviate the effects of the sun's rays the zinc parts of the gravel ledge and of the edge lining are enabled to expand and move lengthwise independently of the parts underneath the roofing material, the exposed parts being made of pieces soldered neither to one another nor to those parts which do not expand.

16,818.—MATERIAL FOR RENDERING DOORS AND WINDOWS AIR-TIGHT: *E. Mittelsten-Scheid.*—The material is made of list or a band to which a cord, chenille, or plush is plaited or woven, and may be, in whole or in part, of wool or cotton.

17,175.—SAFETY DEVICES FOR CATCHING WORKMEN AND PREVENTING INJURY TO THEM WHEN WORKING IN DANGEROUS PLACES: *J. B. Fondu.*—The invention, which is particularly applicable for use in glass factories, wherein the workman blows long tubes of large diameter in a series of pits, comprises a device for suspending supports within the pits, and laying mattresses therein, so that the workman, if he falls, will not injure himself on the broken glass beneath.

17,553.—MANUFACTURE OF SLABS OR TILES; *G. A. Marsden & J. Newton.*—For making what are known as safety-back tiles, with undercut or dove-tail recesses for facing walls, the inventors affix to the top or bottom die one or more straight or curved metallic strips by shellac, the strips being removable when the dies are required for making plain tiles.

17,612.—DOOR KNOB FURNITURE: *R. H. McHardy, J. McHardy, & D. S. Froy.*—The claim lies in devising a spindle which is divided lengthwise to form two halves, triangular in section, each of which has a tapped opening at its opposite end, in which pinch-screws work to abut against the flat opposing surface of the triangular half-spindle, and pass through vertical openings in the door knobs; the pressure which retains the knobs is equally divided on all sides of the square holes therein, whilst the knobs may be pushed in towards one another, since the pinch-screws do not protrude beyond the bases of the triangular pieces.

17,817.—AUTOMATIC SLUICE VALVE, ESPECIALLY ADAPTED FOR HOUSE DRAINAGE: *C. H. W. L. Mahler.*—The especial features of the contrivance consist of (1) a slide or door, which is normally retained in its upper or opened position by pawls or levers, and is released in case of back-water by a float that acts upon the levers, and is guided by a roller into a wedge-shaped guide groove of the water passage; and (2) the partial lengthwise division of the horizontal water-pipe into halves for insertion of the sluice valve into existing pipe conduits, and for enabling inspection and cleaning of the interior whilst the sluice valve is being mounted.

19,105.—BRICK-MAKING MACHINES: *G. V. Maxted & C. McDermott.*—The machine's main frame consists of, preferably, two heavy plates or heads standing vertically, to which are bolted the mixing or tempering tubs; within the tubs revolve the tempering blades which may take the form of an archimedean screw; the presses consist of heavy wings mounted on horizontal shafts within the mill, and are operated by a notched segment which is mounted on the shaft and engages with a pawl at one end of the regulator-arm; the pawl is made in two hinged parts so that it may yield under any undue pressure caused by a foreign obstacle.

20,681.—KITCHENERS: *F. J. Brown.*—The oven is constructed so that it may be lifted in and out through the front plate, and the boiler is constructed so that it can be dropped into position and held firmly without screws; the boiler has a loose cover made in two parts, and its hob has an open space formed through it large enough for the boiler to pass through, with a seating for flanges on the outside top edges of the boiler to rest upon.

20,980.—PRESSING BRICKS, TILES, &c.: *N. Collier.*—A vertically movable bottom plate is combined with expanding rests or seating together with mitred, splayed, or curved joints between the same; the vertically movable mould-box or die has inside linings adapted to engage a rebate or recess on the underside of a top-plate, and is set up with springs, in order to vary the thickness of the brick or tile.

21,386.—WINDOW SASHES: *J. Hayton.*—To provide ready means for cleaning, repairing, or reversing the sashes, the stiles are each provided with an extra piece, called the "loose stile," whose engagement or disengagement is effected as follows: a pin or bolt passes through the inside of the sash stile, and is grooved at one end to engage a slot in a plate recessed in that side of the loose stile nearest the sash stile, the bolt's other end projects from the side of the sash stile in front of the glass, and has a lever or thumb-piece for its rotation; at about its middle length the bolt has a helical groove engaging a set sorew in the sash stile, the loose stile is freed from the sash stile by a partial rotation of the bolt; studs or snugs in the side of the loose stile engage in the sash stile and so ensure the former's sliding with the sash, when the stiles are locked together; the sashes are rendered weather-tight be rebating the loose stile to engage with rebates in the side-frames, and the parting slip or lath, the latter being made T-shaped to that end; for removal of the sash an open-ended slot may be formed in the plate which engages the bolt, or the plate may be made in two parts each having a semi-circular hole to fit round the bolt.

21,394.—URINALS: *P. Bright.*—For urinals which consist of one or more upright semi-cylindrical compartments or stalls with bases that deliver the flushing water into a gutter in front of the stalls, the inventor makes the channel between the base or floor open and uncovered at the top—in order that it may be more readily cleaned and inspected—and provides a grating, which can be lifted or raised on a hinge, to lie over the gutter and the open channel.

21,623.—ELECTRICAL CONNECTING DEVICES, APPLICABLE TO LAMP-HOLDERS, WALL PLUGS, &c.: *C. L. R. E. Menges.*—A feature of the invention is that the fastening is obtained by screw action, whilst the plug of the ordinary bayonet holder may be employed: the holder has a moveable sleeve fitted with helical surfaces or slots with which the projecting pins on the plugs engage, so that by turning the plug whilst its end-face bears upon the contacts in the holder, it screws the sleeve up so as to compress or extend a spring on the latter, and thus presses together the contacts for transmission of the current; in order to prevent the plug from turning back again of its own accord, small recesses are formed at the extremities of the helical surfaces, which act (in a measure) as oppositely inclined screw-threads and tend, under the spring's action, to cause the plug to screw itself still further in, without however rendering it impossible for any one to unscrew the same by hand.

21,671.—WATERPROOF (CAVITY) JOINT FOR ROOF AND OTHER BOARDS: *J. Wilson.*—Water entering the upper section of the joint is carried away on the bed of the channel-like joint; a raised nib prevents water from passing through the joint's lower section, and the waterproof joint is completed by the circumstance that the water does not follow up the other (hanging) nib which is not allowed to come into contact with the raised nib.

[1898] 6,853.—EASELS: *E. Dyonnet.*—The apparatus comprises two adjustable side standards, which may be connected by an extensible cross-bar, and have pivotted clamping frames to hold the block or canvas in position.

13,721.—SUSPENDED ELECTROLIERS: *J. G. S. Cunnington.*—The framework is a fixture. Each of the lamps is carried by a conducting cord running over a pulley on an arm of the electrolier and over a pulley fixed at the top of the frame; each cord is then looped and in the loop is received the pulley of a weight. As a modification, each of the conducting and suspending cords is caused to take a direction parallel to that of the electrolier's hanging rod and arms by being passed under an additional pulley which may be on the electrolier's central boss.

NEW APPLICATIONS.

August 2—6.

16,679, H. M. Darrah, Cut-outs for High Voltage Currents. 16,680, R. Whitfield, for Removal of Pitch from Paving-stones, Blocks, &c. 16,697, Rossborough & Pile, Treating Clay for the Manufacture of Bricks, Tiles, &c. 16,700, G. J. E. Copping, Ventilators. 16,701, J. B. Wilson, for Augmenting the Delivering Capacity of Gravitation Water-supply Mains. 16,706, E. Wilson, Electric Supply Meters. 16,714-5, C. P. Steinmetz, Electrical Distribution. 16,733, E. Evans; 16,884, J. Varon; 16,894, Vautrin & Brocard; 16,903, M. de Montais; and 17,008, Read, Holliday & Sons, and Another, Generation of Acetylene Gas. 16,734, H. G. Carleton, Electric Locks. 16,743, E. Breslauer, Keyless Locks. 16,746, Miller Lock Company, U.S., Latch Locks. 16,765, Stillman & Stonham, Kitchen Ranges. 16,766, Orme & Howarth, Gas-Meter Prepayment Mechanism. 16,770, W. Furnival, Automatic Lighting of Street (Gas) Lamps, &c. 16,777, A. Patrick, Cement. 16,783, J. Robertson, Square for Use upon Mouldings, &c. 16,785, H. O. Strong, Gas Stoves for Heating. 16,791, Wassermanns, Coverings for Floors or Walls. 16,801, J. Hampton, sen., Tools for Centering Cylindrical and other shaped bodies. 16,802, H. W. Hill, Automatic Calculating Machine. 16,818, R. F. Fitch, Lock Casing and Fixing same. 16,819, L. McNair, Ventilation of Mines. 16,829, D. Noble, Friction Clutches and Shafting. 16,830, Williams & Hoadley, U.S., Mechanical Movements Applicable to Drills, &c. 16,834, C. U. E. Petersen, Automatically-Regulated Charging of Electrical Accumulators. 16,836, E. Oberländer, Lattice Work, &c. 16,856, Phillips & Glass, Circular-Saw Guards. 16,869, D. Roche, Structure for Use for Decorating, Painting, and Similar Purposes. 16,870, J. Kerr, Brush Holder for Painters' Use when Working with the Aid of a Pole. 16,875, E. Schattner, Electricity Meters. 16,883, M. Hansen, Heating and Cooking by Electricity. 16,915, Payne & Edwards, Moulding Bricks, &c. 16,916, P. Brennan, Portable Winch or Hauling Appliance. 16,918, A. J. Andrews, Fences and Guards for Circular Saws, Applicable to other Machines. 16,919, Maclaren & Gale, Flexible Joints for Cast-iron Pipes. 16,922, Draper & Others, Bulkhead Doors, Partly Applicable to Fireproof Doors for Buildings. 16,947, Dodd & Bagnall, Arc Lamps. 16,948, Brachvogel & Müller, Water-Raising Apparatus. 16,972, T. McEwan, Jointing-boxes for coupling-up and Insulating Electrical Wires. 16,973, General Electrolytic Company and Others, Electrical Conductors and Anodes. 16,974, T. W. Twyford, Sinks, Lavatory Basins, Slop Hoppers, &c. 16,981, D. Maxwell, Electric Wiring for Lamp-Circuits. 16,989, Daws, Feed Mechanism of Percussive Rock Drills. 16,991, W. Branford, Flooring-cramp. 17,002, H. Harrison, Kilns for Bricks, &c. 17,005, Metal Tube Jointing Company and Another, Tool for Knurling the Interiors of Tube-sockets. 17,016, L. M. Waterhouse, Iron and Steel Tube Manufacture.

SOME RECENT SALES OF PROPERTY

ESTATE EXCHANGE REPORT.

July 28.—By Messrs. SPELMAN (at North Walsham).

North Walsham, Norfolk.—Freehold residence and 2 a. 3 r. 23 p.	£2,000
By WORSFOLD & HAYWARD (at Dover).	
Dover, Kent.—Park-pl. (rear of), two sets of stabling, u.t. 72 yrs., g.r. 3*l.* 10s.	365
River, &c., Kent.—A freehold building site, 27 a. 2 r. 37 p.	1,500
Enclosures of land, 45 a. 2 r. 24 p., f.	1,050
Alkham, Kent.—Enclosures of land, 38 a. 2 r. 30 p., f.	300
By COOPER & PREECE (at Ross).	
Weston-under-Penyard, Hereford.—The Seabrook and Wigmeadows Estate, 105 a. 1 r. 17 p., f.	3,750
By ARTHUR BLACKFORD.	
Holloway.—83, 91, and 95, Marlborough-rd., u.t. 69 yrs., g.r. 18*l.* 18s.	900
Barnsbury.—36 and 38, Dorinda-st., f.	700
By DRIVERS.	
Holloway.—40, George's-rd., f., r. 26*l.*	500
By HAMILTON & MIALL.	
Holborn.—3 and 4, Devonshire-st., u.t. 22 yrs., g.r. 132*l.*	120
Peckham.—30, Hill-st., u.t. 26 yrs., g.r. 4*l.*, r. 38*l.*	205
By G. B. HILLIARD & SON.	
Fryerning, Essex.—Lyndsay's Farm, 46 a. 3 r. 32 p., c.	1,450
An enclosure of land, 7 a. 3 r. 21 p., c.	370
By DEBENHAM, TEWSON, & Co.	
Lewisham.—211, High-st., area 15,300 ft., f.	3,050
Marylebone.—16 and 17, High-st., u.t. 24½ yrs., g.r. 26*l.*, r. 235*l.*	2,610
Eastbourne, Sussex.—Silverdale-rd., Freshfield, f.	1,800
Brentwood, Essex.—Brook-st.-hill, f.g.r. 40*l.* 10s., reversion in 69 yrs.	1,020
By FAREBROTHER, ELLIS, & Co.	
Dagenham, Essex.—Horse Shoe Corner, an enclosure of freehold land, 34 a. 3 r. 13 p.	2,000
Abbey Wood, Kent.—Bostal, Old Park and 13 a. 3 r. 38 p., u.t. 15 yrs., g.r. 28*l.* 6s. 6d., r. 100*l.*	500
By C. C. & T. MOORE.	
Mile End.—49 and 51, Grafton-st., u.t. 51 yrs., g.r. 9*l.*, r. 64*l.*	735

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Bungalow, Newton Ferrers, Devon	.....	J. Ford, C.E. 1, George-st. Plymouth	Aug. 23
Cast Iron Water Mains	Llanelly R.D.C.	J. Jenkins, Surv. Council Offices	do.
Additions to Workhouse	Upton-on-Severn Union	E. Baldwin, Archt Rockcliffe, Great Malvern	do.
Additions to Infirmary	Belfast Union	Young & Mackenzie, Engr. Dougall-square East, Belfast	do.
Urinal Stalls, &c.	Manchester Corp.	City Surv. Town Hall	do.
Portland Cement	Halifax Corp.	E. K. S. Escott, C.E. Town Hall	Aug. 24
Tramway Track	do.	do.	do.
Additions to Hospital, Stoney Royd	do.	do.	do.
Workhouse Residence	North Dublin Union	Mr. Morris, 24, Cabra-parade, Dublin	do.
Additions to Schools, Leake Church End, Lincs.	.....	H. W. Parker & Son, Archt Boston	do.
Additions to Cattle Market Office	Norwich Corp.	A. E. Collins, City Engr. Guildhall, Norwich	do.
Two Railway Waggons	Salford Corp.	S. Brown, Town Hall	do.
Iron Pipes (3,000 yards)	Bury (Lancs.) Corp.	E. B. Rigby, Waterworks Office, Parson's-lane	do.
Additions to Fife Arms Hotel, Braemar, N.B.	.....	A. M. Mackenzie, Archt. 1, Bon Accord-st. Aberdeen	Aug. 25
Two Blocks of Houses, Princeton-road, Bangor, Ireland	S. Crosbie	Young & Mackenzie, Archt. Belfast	do.
Road Works, Oxford-road, &c.	Dewsbury Corp.	Borough Surv. Town Hall	do.
Making-up Eight New Streets, New Benwell Building Estate	C. J. Cruddas	H. W. Taylor, C.E. Amen Corner, Newcastle-on-Tyne	Aug. 26
Laboratory, Grammar School, Carlinghow, Batley	.....	W. Hanstock & Son, Archt. Batley	do.
Road Metal	Sunderland R.D.C.	T. Young, Surv. 17, John-st. Sunderland	Aug. 27
House, Kilkeel, co. Down	.....	G. L. W. Blount, Archt. Waring-st. Belfast	do.
Sewering Dewis-st. &c.	Longridge U.D.C.	T. S. McCallum, Engr. 4, Chapel-walks, Manchester	Aug. 29
Underground Conveniences	Dublin Corp.	S. Harty, City Engr. City Hall	do.
Additions to Destructor Buildings, Attercliffe	Sheffield Corp.	C. F. Wike, C.E. Town Hall	do.
Widening West Hill-road	Portishead U.D.C.	T. J. Moss Flower, C.E. Council's Offices	do.
Baptist Chapel, West Hill, St. Austell, Cornwall	.....	F. C. Jury, Archt. St. Austell	do.
Public Conveniences, &c. North Corner Quay	Devonport Corp.	G. F. Burns, Boro. Surv. Municipal Offices	do.
*Broken Granite	East Ham U.D.C.	W. H. Savage, Public Offices, East Ham	do.
*Granite Curb	do.	do.	do.
Church, Lecture Hall, &c. Malone-road, Belfast	.....	W. H. Stephens, Surv. Donegall-sq. North, Belfast	Aug. 30
School House, Killaughy, Millisle, Ireland	.....	Rev. S. J. Lyons, Millisle	do.
*Sewers	Barnet U.D.C.	W. R. Mansbridge, 40, High-street, Barnet	do.
Chapel and School, Esk, near Waterhouses, Northumberland	.....	G. Rhymer, Tudhoe Colliery, Tudhoe	Aug. 31

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Street Works, Blackley-street, &c	Middleton (Lancs.) Corp.	Mr. Welburn, Boro. Surv. Town Hall	do.
Street Works (several roads)	Birkenhead Corp.	C. Brownridge, C.E. Town Hall	do.
*Surface Water Drains	Cirencester U.D.C.	T. Hibbert, Council Offices, Cirencester	Sept. 1
*Museum	Cty. Boro. of West Ham	Gibson & Russell, 11, Gray's-Inn-square, W.C.	Sept. 2
*Technical Institute and Free Library	Tonbridge U.D.C.	A. H. Neve, Jun. 83, High-st. Tonbridge	Sept. 3
*Covered Reservoir	Derby Corp.	Boro. Surv. Balenigton-lane, Derby	Sept. 5
Granite (2,000 tons)	Aldershot U.D.C.	Surveyor, Council Offices	Sept 6
*Office Buildings	Ramsgate Corp.	W. A. McI. Valon, Town Hall	Sept. 10
*Electric Light Station Buildings	Bury St. Edmund's Corp.	J. Campbell Smith, Boro. Surv.	do.
*School Buildings	Walthamstow S.B.	W. A. Longmore, 7, Great Alie-street, E.	Sept. 13
*Aqueduct (17¼ miles)	Birmingham Corp.	J. Mansergh, 5, Victoria-street, S.W.	do.
*New Ward at Hospital	Epping R.D.C.	E. Egan, Holmdale, Loughton	Sept. 14
*Road Making	Hornsey U.D.C.	E. J. Lovegrove, Office, Southwood-ln. Highgate	Sept. 19
*Additions, &c. at Workhouse	Westbury-on-Severn Union	W. F. Jones, 21, George-st. Gloucester	Oct. 3
Church, St. Anne's-on-Sea	.....	Austin & Paley, Archt. Castle Hill, Lancaster	No date
Boundary Walls, &c. Rishton	Conservative Club	Sandbach & Parker, 15, Richmond-terrace, Blackburn	do.
Additions to Holy Trinity Church, Shirebrook, Notts	.....	H. J. Price, Archt. 24, Low Pavement, Nottingham	do.
Villa, Talgarth, Brecon	.....	R. W. Thomas, Archt. Bank-terrace, Talgarth	do.
Additions to Warehouses, Warley-rd. Brentwood	Crampton & Co.	A. T. G. Woods, Archt. Brentwood	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in.
*Clerk of Works	Ilford Sch. Bd.	3l. 3s. per week	Aug. 22
Electrical Engineer	Watford U.D.C.	150l. per annum	Aug. 24
*Architectural Assistant	Halifax Corp.	3l. 3s. per week	do.
*Clerk of Works	Bethnal Green Vestry	4l. 4s. per week	Aug. 27
*District Surveyors (2)	Lancs. C.C.	200l. per annum	Aug. 31
*Buildings Inspector	Southend-on-Sea Corp.	125l. per annum	Sept. 2
*Superintendent of Cleansing	St. Marylebone Vestry	180l. rising to 230l. per an.	Sept. 5
*Superintendent Road Works, &c.	do.	150l. rising 200l. per annum	do.
*Superintendent of Sewers and Drains	do.	do.	do.

Those marked with an asterisk (*) are advertised in this Number. *Competitions, p. —* *Contracts, pp. lv. vi. & viii.* *Public Appointments, pp.* xvii. xviii. & xix.

Limehouse.—33 to 43 (odd), Farrance-st., u.t. 46 yrs., g.r. 16l. 10s. £1,215
90 and 108, St. Paul's-rd., u.t. 61 and 75 yrs., g.r. 10l. 690
4, Aston-st., u.t. 28 yrs., g.r. 3l. 3s. 230
Upton Pk.—Rutland-rd., two building plots, f. .. 135
Hackney.—142, Amhurst-rd., u.t. 68 yrs., g.r. 6l., r. 60l. 600
Commercial-rd. E.—No. 359, u.t. 39 yrs., g.r. 30l., e.r. 80l. 375
West Ham.—10, 12, 14, and 16, Dirleton-rd., f. .. 685
Buckhurst Hill.—1, 2, 3, and 4, Alpha-ter., u.t. 85 yrs., g.r. 18l., r. 104l. 425
Bethnal Green.—124, Cambridge-rd., f., r. 30l. 610

By H. J. PHILLIPS.

Tottenham.—3, Grove Park-rd., u.t. 84 yrs., g.r. 6l. 260
9 and 11, Newton-rd., u.t. 76 yrs., g.r. 9l. 180

By J. A. & W. THARP.

Tottenham.—Riversdale-ter., f.g.r. 36l., reversion in 92 yrs. 950
Bethnal Green.—10 to 20 (even), Church-row and 1, Wood's Close, f. 3,570
Limehouse.—32 to 40 (even) and 48, Eastfield-st. and 57a, 70 and 72, Aston-st., f. 2,240

By NEWBON, EDWARDS, & SHEPHARD.

Holloway.—64, Drayton-pk., u.t. 78 yrs., g.r. 20l., r. 70l. 960
Islington.—8, Union-st., u.t. 38 yrs., g.r. 5l., 5s. .. 355
Ball's Pond.—68, Kingsbury-rd., f., r. 26l. 385
Barnsbury.—46, Sonning-st., u.t. 61 yrs., g.r. 7l. .. 335
King's Cross.—16, Canal-ter., u.t. 44 yrs., g.r. 4l., r. 30l. 285
Bowes Park.—90 and 92, Myddleton-rd., f., r. 76l. 1,180
Stepney.—374, Commercial-rd. East, f., r. 45l. 830
Chelsea.—25, Walton-st., u.t. 44 yrs., g.r. 9l., r. 70l. 900
Holloway.—130 and 132, St. James's-rd., u.t. 45 yrs., g.r. 13l., r. 113l. 1,400

By STIMSON & SONS.

Drury-lane.—33, 34, and 35, Great Wild-st., f. 3,800
Newington.—127, Newington-causeway, u.t. 65 yrs., g.r. 65l., e.r. 250l. 1,850
Brixton.—20, Crowhurst-rd., u.t. 63 yrs., g.r. 9l., r. 63l. 620
13, Pope's-rd., u.t. 70 yrs., g.r. 5l., r. 32l. 280
Blackfriars.—57, 59, and 61, Gray-st., u.t. 37 yrs., g.r. 15l. 610
Herne Hill.—131, Dulwich-rd., u.t. 48 yrs., g.r. 10l., r. 60l. 560
Hornsey.—2 and 4, Enfield-rd., u.t. 79 yrs., g.r. 8l. 10s. 300
Balham.—8, Drakefield-rd., u.t. 91 yrs., g.r. 8l. .. 475
Fulham.—88 and 90, Sherbrooke-rd., u.t. 84 yrs., g.r. 11l. 430
Norbury.—High-rd., two plots of land, f. 230
Walworth.—47, Penrose-st., f., r. 34l. 600
10 and 11, South-grove, f. 755
35 and 37, South-st., f. 580
Lambeth.—40, Lambeth-rd., f., r. 45l. 670

By RENDELL & SYMONS (at Newton Abbot).

Lustleigh, Devon.—Barne Court Estate, 113 a. 1 r. 13 p., f. 1,925
Enclosure of land, 13 a. 1 r. 30 p., f. 470

By J. H. BETHELL (at Barking).

Barking.—Longbridge-rd., &c., 115 plots of building land, f. (in lots) £5,450

July 29.—By H. F. RUSSELL (at Leominster).

Eardisland, Hereford.—The Nunhouse Farm, 100 a. 2 r. 26 p., f. 2,900

By F. W. BECK (at East Dereham).

Stanfield, Norfolk.—Two freehold and copyhold farmhouses and 77 a. 3 r. 35 p. 1,300

By CLIMPSON & JOHNSON.

Balham.—65, Fernleau-rd., u.t. 75 yrs., g.r. 6l. 6s., r. 29l. 255

By DOWSETT & MANN.

Forest Gate.—120 to 126 (even), Shrewsbury-rd., u.t. 98 yrs., g.r. 30l. 590
Cheam.—Longfellow-rd., a plot of building land, f. 405
Muswell Hill.—Sydney-rd., a block of building land, 3¾ a., f. 2,400

By A. & A. FIELD.

Mile End.—17, 19, and 21, Cephas-st., u.t. 32 yrs., g.r. 9l., r. 72l. 825
Holloway.—2, 4, and 6, Tollington Pk., f., r. 110l. 1,700
Canning Town.—Victoria Dock-rd., f., g.r. 45l. 10s., teversion in 68 yrs. 1,200

By MARK LIELL & SON.

Bromley-by-Bow.—79 and 81, St. Leonard-st., f., r. 66l. 600
Stratford.—20 and 21, Godfrey-st., u.t. 70 yrs., g.r. 5l. 245
Leytonstone.—663, Leytonstone-rd., u.t. 90 yrs., g.r. 7l. 10s., r. 40l. 400

By J. C. PLATT.

Brompton.—Gilston-rd., The Limes, u.t. 33 yrs., g.r. 10l., e.r. 150l. 1,130
Hammersmith.—99 to 119 (odd), Hammersmith-rd. u.t. 24¼ yrs., g.r. 50l., r. 455l. 5,370
Masboro'-rd., f.g.r. 4l., reversion in 67 yrs. 140
Chelsea.—280, King's-rd., u.t. 10½ yrs., g.r. 12l., r. 100l. 320

By R. PRICE & SON.

Clapham.—3 and 4, Great Acre-court, f. 435
Balham.—1, Heslop-rd., u.t. 87 yrs., g.r. 8l., r. 40l. 380

By S. WALKER & SON.

St. George's East.—Old Gravel-lane, York Buildings, u.t. 63 yrs., g.r. 75l. 1,650
Camden Town.—172 and 174, Camden-rd., u.t. 38 yrs., g.r. 12l., r. 153l. 1,555

By J. W. WEST & Co.

Bloomsbury.—14, Torrington-sq., u.t. 22 yrs., g.r. 12l., r. 90l. 790

August 3.—By A. DOWELL (at Edinburgh).

Stracathro, &c., Forfar.—The Estate of Lundie, 1,153 a. 13,200

By G. W. CLARK (at Flamborough).

Flamborough, Yorks.—Hartendale Farm, 114 a. 1 r. 37 p., f. 3,775
Enclosures of land, with old tower, &c., thereon, 70 a., f. 1,700

By BIDDELL & BLENCOWE (at Bury St. Edmunds).

Worlington, Suffolk.—The Church Farm, 61 a. 1 r. 2 p., f. and c. 1,525
Three enclosures of land, 18 a. 2 r. 12 p., f. £378

By FENN & Co. (at Saxmundham).

Westleton, Suffolk.—Various enclosures, 26 a. 2 r. 12 p., f. 339

August 4.—By R. & A. G. THOROWGOOD (at Bishop's Stortford).

White Roothing, Essex.—Kingston's Farm, 82 a. 0 r. 38 p., f. and c., r. 45l. £360
Berden, Essex.—Two freehold cottages, r. 12l. .. 200

By DEBENHAM, TEWSON, & Co.

Stepney.—182 and 184, Stepney Green, f., r. 68l. .. 1,000

By GIDDY & GIDDY.

Gt. Marlow, Bucks.—The Eyrie and 1 acre, u.t. 53 yrs., g.r. 8l. 700

By D. L. GOOCH.

Thornton Heath.—36, Parchmore-rd., f., r. 28l. .. 420
Anerley.—102, Croydon-rd., u.t. 97 yrs., g.r. 13l., r. 65l. 820

By MORGAN, BAINES, & CLARK.

Fetcham, Surrey.—Fixby Cottage, c. 320

By G. B. SMALLPEICE (at Woking).

Woking, Surrey.—Maybury-rd., The Firs, f. 670
Walton-rd., four plots of building land, f. 272

August 5.—By G. B. HILLIARD & SON (at Chelmsford).

Billericay, Essex.—Two enclosures, 7 a. 0 r. 16 p., c. 400

By J. HOWELL, THOMAS & SON (at Whitland).

Kiffig, Carmarthen.—Three building sites, 2 r. 10 p., f. 110
Trevanghan Farm, 187 a. 3 r. 37 p., f. 5,320
Middleway Farm, 90a. 0r. 4 p., f. 2,775
Great Pale Farm, 483 a. 2 r. 31 p., f. 6,400
Cwmcolly Holding, 12 a. 1 r. 10 p., f. 400
Freehold cottage, pound and 11 a. 2 r. 3 p. 310
Brunant Farm, 88 a. 3 r. 32 p., f. 1,700
Brunant Lodge and 2 a. 0 r. 12 p., f. 135
Pale Gate Holding, 16 a. 1 r. 9 p., f. 280
Penygraig Holding, 16 a. 1 r. 25 p., f. 430
Greystone Farm, 31 a. 2 r. 0 p., f. 600
Little Pale Farm, 138 a. 0 r. 10 p., f. 1,705
Penyback Farm, 152 a. 0 r. 18 p., f. 2,000
Three freehold fields and quarry, 10 a. 2 r. 22 p. 360
Grey Orchard Farm, 80 a. 3 r. 10 p., f. 2,270
Craig-y-Divor Farm, 165 a. 2 r. 11 p., f. 2,315
Mountain Farm, 313 a. 1 r. 0 p., f. 3,418
Brownslade Farm, 196 a. 1 r. 22 p., f. 1,900

By W. A. BLAKEMORE.

Hammersmith.—F.g.r. 26l. 5s., reversion in 79 yrs. 680
Peckham.—37, Linden Grove, u.t. 50 yrs., g.r. 7l. 10s., r. 45l. 370
36, Linden Grove, u.t. 80 yrs., g.r. 6l. 15s., r. 28l. 255

August 6.—By E. J. GILDERS (at Clacton-on-Sea).

Clacton-on-Sea, Essex.—Holland-rd., &c., twenty-three plots of building land, f. 1,508
1, Cambridge-villas, u.t. 80 yrs., g.r. 2l. 10s., r. 24l. 350
Edith-rd., three freehold residences, r. 137l. 2,400
Magdalen Green, The Greengrocery Stores, f., r. 35l. 610

Magdalen Green, two freehold shops and residences, r. 65*l.* £1,010
St. Osyth-rd., &c., four plots of building land, f. 463
August 8.—By C. RAWLEV CROSS & Co.
Fulham.—20, 22, and 24, Coomer-rd., u.t. 72 yrs., g.r. 25*l.*, r. 142*l.* 8s. 1,120
By ELLIOTT, SON, & BOYTON.
Twickenham.—Strawberry Vale, a riverside residence and half an acre, c. 2,510
By C. F. MOORE (at Cirencester).
Meyseyhampton, Glos.—Sun Hill or Mount Pleasant Farm, 110 a. 2r. 37 p., f. 1,700
By MORRIS, MARSHALL, & POOLE (at Welshpool).
Berriew, Montgom.—Bron-Hafren and 3 a. 1r. 28 p., f. 750
Buttington, Montgom.—The Harp Farm, 90 a. 2 r. 26 p., f. 800
Buttington Meadows, 15 a. 3 r. 26 p., f. 1,050
Bettws, &c., Montgom.—Cwm Harry Farm, 14 a. 2 r. 24 p., f. 385
Llanfechan, Montgom.—Penllys Bach Holding, 13a. 1r. 16p., f. 410
August 8 and 9.—By FAREBROTHER, ELLIS, & Co. (at Salisbury).
Fordingbridge, Hants.—The Burgate Estate, comprising about 1,325 a., f. (in lots) 52,334
August 9.—By E. H. HENRY.
Clapham.—7, Old Town; also Jessamine Cottage, f., r. 80*l.* 1,450
Old Town, freehold coachbuilders' and omnibus works, r. 150*l.* 2,750
By NOTT & CARTWRIGHT.
Pimlico.—32, Denbigh-pl., u.t. 32 yrs., g.r. 10*l.*, r. 60*l.* 495
72, Cumberland-st., u.t. 35 yrs., g.r. 10*l.* 500
Wandsworth.—155, Trinity-rd., u.t. 81½ yrs., g.r. 12*l.* 12s., r. 48*l.* 325
Pimlico.—33 and 35, Cumberland-st., u.t. 35 yrs., g.r. 16*l.*, r. 130*l.* 1,000
By VENTOM, BULL, & COOPER.
Oxford.—Observatory-st., The St. Giles' Brewery, with four licensed houses, f. and l. 9,000
By T. B. WESTACOTT.
Bermondsey.—6, 7, 8, 9, 13, and 15, Thornburn-sq., u.t. 45 yrs., g.r. 36*l.*, r. 265*l.* 4s. 2,000
By DEBENHAM, TEWSON, & Co.
Leyton.—Knott's Green, the Knott's Green Estate, 100 a. 2r. 17 p., f. 60,100
Knott's Green, Cedar Lawn and 1 a. 1r. 4 p., f. . 2,350
By J. H. SCRIVEN (at Masons' Hall Tavern).
Hornsey Rise.—Hazelville-rd., "The Duchess of Sutherland" p.-h., u.t. 27 yrs., r. 100*l.*, with goodwill 12,570
By WILKINSON, SON, & WELCH (at Brighton).
Brighton, Sussex.—14 and 14A, East-st., a profit rental of 195*l.* for 7 yrs. 900
By Messrs. SPELMAN (at Stalham).
Happisburgh, Norfolk, a freehold and copyhold occupation, 13a. 3r. 25 p. 800
August 10.—By BURLEY & BRACKENBURY.
Ealing.—67, The Broadway; also "The Royal Oak" p.-h., u.t. 23¾ yrs., g.r. 54, r. 115*l.* 2,300
By DANN & LUCAS.
Welling, Kent.—Main-rd., Moat House and 2 a. 1r. 17 p., f. 1,425
By LINNETT & LANE.
Ealing.—30 to 42 (even), Carlyle-rd., u.t. 98 yrs., g.r. 31*l.* 10s. 1,610
By S. FORTESCUE & SONS.
Thornton Heath.—Beulah-rd. North, eleven plots of building land, f. 580
Chiswick.—428, High-rd., f., r. 30*l.* 740
High-rd., a freehold building site 490
Streatham.—Oakdale-rd., four plots of building land, f. 700
By RAMSEY & Co.
Norwood.—Alexandra-rd., Lawnswood, u.t. 56 yrs., g.r. 9*l.*, e.r. 75*l.* 900
Peckham.—50, Clifton-cres., u.t. 55 yrs., g.r. 4*l.* 11s. 7d. 230
1, 3, and 5, Hooks-rd., u.t. 68 yrs., g.r. 13*l.* 10s. 500
Sydenham.—4, Fairlawn-ter., u.t. 63 yrs., g.r. 8*l.* 10s., r. 40*l.* 475
By SALTER, REX, & Co.
Kensington.—10, Maclise-rd., u.t. 79 yrs., g.r. 17*l.*, e.r. 80*l.* 625
Kentish Town.—72, Wellesley-rd., f., e.r. 60*l.* 780
8, Roderick-rd., u.t. 77 yrs., g.r. 1*l.*, r. 46*l.* 620
By DOUGLAS YOUNG & Co. (at Buxton).
Buxton, Derby.—18, Bridge-st., f. r. 120*l.* 1,600
By G. W. CLARK (at Nafferton).
Nafferton, Yorks.—Five houses, two cottages, and 66 a. 3 r. 29 p., f. (in lots) 3,530
August 11.—By HARDS & BRADLY.
Blackheath.—8, Vanbrugh Hill, f., e.r. 55*l.* 705
Bromley, Kent.—21 and 22, Farwig-lane, f 315
By NEWBON, EDWARDS, & SHEPHARD.
Caledonian-rd.—49, Charlotte-st., and 42, Muriel-st., u.t. 23 yrs., g.r. 3*l.* 3s. 470
27, Tiber-st., and 37, Carlsbad-st., u.t. 44 yrs., g.r. 4*l.* 415
28, 29, and 30, Tiber-st., u.t. 44 yrs., g.r. 12*l.* 735
St. Luke's.—13, Langton-st., u.t. 18 yrs., g.r. 3*l.*, r. 30*l.* 140
Euston-rd.—Little Drummond-st., l.g.r. 65*l.*, u.t. 20 yrs., g.r. 5*l.* 500
Hoxton.—112 and 118, Murray-st.. u.t. 44 yrs., g.r. 8*l.* 8s., r. 68*l.* 730
Barnsbury.—92, Offord-rd., u.t. 16 yrs., g.r. 8*l.*, e.r. 40*l.* 160
Holloway.—37 and 39, Parkhurst-rd., f., e.r. 105*l.* 1,610
By STIMSON & SONS.
Camberwell.—90, Camberwell-rd., f., including goodwill 3,050
Southwark.—86, Gravel-lane, f., including goodwill 1,200
Bow.—195, Bow-rd., f., including goodwill 1,250
Kentish Town.—21, Leighton Grove, u.t. 42½ yrs., g.r. 6*l.* 6s., r. 38*l.* 420
Brixton.—35, 43, 55, 61, and 63, Gresham-rd., u.t. 67 yrs., g.r. 9*l.*, r. 257*l.* 10s. 2,885
Anerley.—5, Seymour Villas, u.t. 32 yrs., g.r. 13*l.* 18., e.r. 60*l.* 345
By ABERCROMBIE & EDMUNDS.
Hampstead.—59, 61, 63, 65, 104, 106, and 108, Iverson-rd., f. 3,380
August 12.—By RICE BROTHERS.
Bermondsey.—Flockton-st., freehold premises (formerly the Cooperage), area 3,700 ft., r. 15*l.* 550

By A. J. SHEFFIELD.

Poplar.—1, Follett-st., u.t. 50 yrs., g.r. 4*l.* 10s..... £295
45 and 47, Venue-st., u.t. 79 yrs., g.r. 7*l.* 10s. .. 400
25, Dewberry-st. and 165, Brunswick-rd., also l.g.r. 3*l.* 10s., u.t. 49 yrs., g.r. 8*l.* 5s. 690
39, Zetland-st., u.t. 67 yrs., g.r. 4*l.* 10s., r. 37*l.*... 330
Plaistow.—21, Liddon-rd., u.t. 82 yrs., g.r. 4*l.* 190

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G. ton	8/0/0	0/0/0
Teak, E.I....load	9/5/0	14/5/0
Sequoia, U.S.ft.cu.	1/9/0	2/2/0
Ash, Canada, load	3/18/0	5/3/0
Birch, do.....	3/7/6	5/0/0
Elm, do.....	4/13/0	5/13/0
Fir, Dantsic, &c..	2/9/0	4/9/0
Oak, do.....	1/18/0	2/18/0
Canada	3/13/0	4/18/0
Pine, Canada red	0/0/0	0/0/0
Do. yellow	4/3/0	6/3/0
Lath, Dantsic,fath	4/10/0	5/10/0
St. Petersburg..	5/0/0	6/10/0
Wainscot, Riga, &c., log.....	4/10/0	6/2/0
Odessa, crown.....	4/10/0	6/0/0
Deals, Finland 2nd & 1st std 100	9/0/0	9/10/0
Do. 4th & 3rd ..	9/0/0	9/10/0
Do. Riga	7/10/0	8/12/0
St. Petersburg, 1st yellow	11/0/0	13/10/0
Do. 2nd yellow.	10/0/0	11/10/0
Do. white.....	9/0/0	11/0/0
Swedish	9/10/0	16/0/0
White Sea	10/10/0	17/0/0
Canada, Pine 1st	18/0/0	24/10/0
Do. do. 2nd	13/0/0	15/15/0
Do. do. 3rd, &c.	6/0/0	9/10/0
Do. Spruce, 1st	8/10/0	10/10/0
Do. do. 3rd and 2nd	7/10/0	8/10/0
New Brunswick	7/0/0	8/0/0
Battens all kinds	5/0/0	16/0/0
Flooring boards, sq., 1 in. prep. 1st.....	9/6	16/0
Do. 2nd	8/0	13/0
Other qualities—	6/3	7/0
Cedar, Cuba, ft.	/4	/4½
Honduras, &c.	/3½	/4½
Mahogany, Cuba	/5½	/7
St. Domingo, cargo av.	/5	0/1/3
Mexican, do. do.	/3½	/4
Tobasco, do. do.	/4	/6½
Honduras, do.	/4	/6
Box, Turkey, ton	4/0/0	15/0/0
Rose, Rio	7/0/0	14/0/0
Bahia	6/0 0	12/0/0
Satin, St. Doming.	0/0/5	0/1/0

TIMBER *(continued)*.		
Satin, Porto Rico	0/0/6	0/1/6
Walnut, Italian ..	0/0/3	0/0/7
METALS.		
Iron—Pig, in Scotland .....ton	2/7/5½	0/0/0
Bar, Welsh, in Londen	5/15/0	5/17/6
Do. do. at works in Wales	5/10/0	5/12/6
Do. Staffordshire, in London.....	6/5/0	7/10/0
COPPER—British cake and ingot	55/5/0	55/15/0
Best selected ..	55/15/0	56/0/0
Sheets, strong..	59/10/0	60/10/0
Chili bars	51/13/9	0/0/0
YELLOW M. L. lb.	5d.	5¼d.
LEAD—Pig Spanish ....ton	13/0/0	0/0/0
English com. bands	13/5/0	0/0/0
Sheet, English 6 lbs. per sq. ft. and upwards ..	14/5/0	0/0/0
Pipe.....	14/15/0	0/0/0
ZINC—English sheet.....ton	23/0/0	0/0/0
Vieille Montagne	23/10/0	0/0/0
Spelter	20/7/6	22/10/0
TIN—Straits	74/10/3	0/0/0
Australian.....	75/10/0	76/0/0
English Ingots..	77/5/0	78/0/0
Banca	0/0/0	0/0/0
Billiton	/0/0	0/0/0
OILS.		
Linseed .....ton	16/17.6	0/0/0
Cocoanut, Cochin	27/15/0	0/0/0
Do. Ceylon	22/0/0	0/0/0
Palm, Lagos	21/15/0	0/0/0
Rapeseed, English pale	27/10/0	0/0/0
Do. Brown	26/0/0	0/0/0
Cottonseed ref. ..	14/5/0	15/5/0
Oleine.....	13/10/0	14/10/0
Lubricating U.S.	0/5/3	0/7/6
Do. Black	0/5/0	0/6/6
TAR—Stockholm barrel	1/5/0	0/0/0
Archangel.....	0/12/6	0/0/0
Turpentine	22/0/0	0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

ASHTEAD (Surrey).—For the erection of two cottages, for Miss L. Smithers, at Barnet Wood-lane. Mr. J. Keal, architect, 23, Wells-street, Oxford-street, W.:—

Smith & Son	£575	J. Death	£456
F. J. Shopland	497	J. Curwood (accepted)	450

AUGHACLAY (Ireland).—For improvements to Catholic chapel. Mr. J. P. M'Grath, architect, Commercial-buildings, Foyle-street, Londonderry:—

J. Gallagher & Son.....	£266 0	D. Gillespie, London-	
W. J. Maultsaid & Son..	247 10	derry (accepted)	£170 0

BARKING (Essex).—For supplying and fixing for the Urban District Council 100 flushing cisterns to water-closets. Mr. C. J. Dawson, surveyor:—

T. J. Bissell.....	£230 0 0	Esmond & Co., East	
T. C. Garbett.....	228 5 0	Ham*	£212 13 4
Sharp, O'Brien	228 1 6	* Accepted.	

BARNSLEY.—Accepted for the erection of a pair of semi-detached villas, Victoria-street. Messrs. Wade & Turner, architects, 10, Pitt-street, Barnsley. Quantities by architects:—

Builders.—Schofield, Son, & Hampson	£1,123 18 8
Joinery.—Arthur Hawley	405 0 0
Plastering.—Thomas Lindley	114 9 0
Plumbing.—Samuel Rushforth	178 6 6
Slating—M. Fleming	68 0 0
Painting.—Stephenson & Son	22 14 0
[All of Barnsley.]	

BILSDALE.—For the erection of a bridge, Raisdale, for the Stokesley Rural District Council. Mr. W. H. Dixon, surveyor, Kirby-in-Cleveland, Stokesley:—

Thos. Clarkson	£395	Brotton (amended tender)..	£325
Wm. Brotton, jun., Bilsdale*	210	* Accepted.	

BRISTOL.—For the erection of a factory, Lewin's Mead, for Messrs. Young & Humphries. Mr. Fred Shove, architect, 8, Colston-avenue, Bristol. Quantities by the architect:—

T. H. Brown	£2,770 13	J. Hatherly.....	£2,197 0
J. Bastow.....	2,500 0	Hughes & Weekes	1,968 12
J. Perkins	2,250 0	D. J. Tanner	1,967 0
W. Foster	2,219 0	J. B. Davis	1,950 0
H. A. Forse	2,200 0	T. Lovell & Son*.....	1,889 0
Stephens & Bastow....	2,198 0	* Accepted.	
[All of Bristol.]			

BURNT HOW LOUGHRIGG.—For new billiard-room, library, and other alterations, for Mr. E. Beusfield. Mr. R. Walker, architect, Windermere:—

For the entire Work

Arthur Jackson, Ambleside..... £765 19 6
Rock-getting at a schedule of prices.

CARLISLE.—For the erection of lodging-house, Lowther street, for the Carlisle Lodging-House Company, Limited. Mr. H. Higginson, architect, Carlisle. Quantities by the architect:—

Builders.—J. & R. Bell .....
Joinery.—J. H. Reed.....
Plumbing.—Wm. Anderson.....
Slating.—J. Hewitson .....
Plastering.—Jas. Harrington .....
Ironwork.—C. H. Bray .....
Painting.—W. N. Ballantine ..... } £4,293 17
[All of Carlisle.]

CARLISLE.—For the erection of house and shop, Haltwhistle for Mr. W. Young. Mr. H. Higginson, architect, Carlisle. Quantities by the architect:—

Building.—Longstaff & Sons, Haltwhistle .....
Joinery.—T. H. Robinson " .....
Plumbing.—Clark & Kitchen " .....
Slating.—J. Hewitson, Carlisle .....
Plastering.—A. Scudamore, Haltwhistle .....
Painting.—T. Snowball " ..... } £568 8

CARLISLE.—For alterations and additions to business premises, English-street, Carlisle, for the Carlisle Café Company, Limited. Mr. H. Higginson, architect, Carlisle. Quantities by the architect:—

Building.—W. & H. Davidson .....
Joinery.—Jos. Plaskett.....
Plumbing—W. Forster.....
Slating.—F. Kellet .....
Plastering.—Ferguson & Sons .....
Painting.—R. S. Kirk ..... } £1,700
[All of Carlisle.]

CARLISLE.—For the erection of dwelling-house, Howarde-place, Carlisle, for Mr. Smith. Mr. H. Higginson, architect, Carlisle. Quantities by the architect:—

Building.—Gordon & Logan.....
Joinery.—Jas. Bell .....
Plumbing.—Wm. Anderson .....
Slating.—C. J. Nanson.....
Plastering.—R. M. Omerod & Son .....
Painting, &c.—R. S. Kirk ..... } £1,091 19 0
[All of Carlisle.]

CARLISLE.—For the erection of two shops and dwelling-house, Haltwhistle, for Mr. W. Bell, Gilsland. Mr. H. Higginson, architect, Carlisle. Quantities by architect:—

Building.—Longstaff & Son, Haltwhistle .....
Joinery.—T. H. Robinson, Haltwhistle .....
Slating.—J. T. Kellet, Carlisle .....
Plumbing.—W. Anderson, Carlisle .....
Plastering.—Wm. Barker, Brampton ..... } £749

CARLISLE.—For the erection of houses and shops, West Tower-street, for Messrs. Dixon. Mr. H. Higginson, architect, Carlisle. Quantities by the architect:—

Building.—W. & H. Davidson .....
Joinery.—H. Court .....
Plumbing.—Graham & Crawford.....
Slating.—J. T. Kellet .....
Plastering.—S. Ferguson & Sons.....
Painting, &c.—R. W. Westray..... } £1,438 10
[All of Carlisle.]

CARLISLE.—For erecting savings bank, Fisher-street, Carlisle. Mr. H. Higginson, architect, Carlisle. Quantities by the architect:—

Building.—E. J. Hill .....
Joinery.—J. Forster .....
Plumbing.—Wm. Anderson .....
Slating.—D. Armstrong .....
Plastering.—R. M. Omerod & Son .....
Painting.—R. W. Westray ..... } £469
[All of Carlisle].

CORK.—For alterations to business premises, 23, Patrick-street, for Messrs. Harvey. Mr. Arthur Hill, architect, 22, George's-street, Cork:—

Dennis O'Callaghan.....	£547	Antony Gaul*	£479
John Kearns	480	* Accepted.	

CRAWLEY (Sussex).—For extension of sewers at Crawley, for the Horsham Rural District Council. Mr. C. H. Burstow, architect and surveyor, Horsham:—

Steer	£425	Easton, Crawley*	£335
Cook & Sons	345	* Accepted.	

CRAWLEY (Sussex).—For erecting shops and houses at Crawley, for Mr. M. Nightingale. Mr. C. H. Burstow, architect and surveyor, Horsham:—

Cook & Sons	£1,699	J. Ockenden & Sons,	
Steer	1,696	Crawley (accepted)	£1,659

CROYDON.—For additions and alterations to "Earl Russell" public house, Gloucester-road, for Messrs. Page & Overton, Limited. Mr. A. Broad, architect, 22, George-street, Croydon:—

W. Smith & Son	£7 6	J. Smith & Sons.....	£641
E. Goulder	648	A. Bullock (accepted).....	602

CROYDON.—Accepted for erecting a pair of semi-detached houses, Woodstock-road. Mr. A. Broad, architect, 22, George street, Croydon:—

W. Pearson & Co..... £1,550

CROYDON.—For erecting two cottages, Waddon Old-road. Mr. A. Broad, architect, 22, George-street, Croydon:—

Rabbetts	£790	W. Pearson & Co.*	£750
Horne & Wotton	775	* Accepted.	

HORSHAM.—For erecting a house at Eastlands, Billingshurst, for Mrs. M. Moore. Mr. C. H. Burstow, architect and surveyor, Horsham:—

Wadey & Sons	£910	J. Ockenden & Sons	£760
G. Marden	798	H. Spooner, Loxwood*	650
		* Accepted.	

KENLEY.—Accepted for bar fittings at the "Kenley Hotel," Kenley, Surrey, for Malder & Collyer Brewery Company, Croydon. Mr. F. West, architect, Coombe-road, Croydon:—

Simpson & Mabe, Peckham..... £456

KENDAL.—For erecting girls' and infants' schools, Castle-street, Kendal. Mr. R. Walker, architect, Windermere:—

Masonry.—Mr. J. W. Howil .....
Joinery.—Park Bros.....
Plumbing—J. R. Farmer .....
Plastering.—W. Knight .....
Painting.—W. Jackson..... } £908 4
[All of Kendal.]

LONDON.—For wiring for electrical installation, and for gas services at the Cranbourne Hotel, Cranbourne-street, for Mr. Henry Bishop. Mr. R. A. Lewcock, architect, 88, Bishopsgate-street:—

Warburg, Diamond & Co. ..	£365	Allan	£220
Buckley & Beach	314	Smeaton & Page	218
Wynn	273	Christie.....	190
South	240	Sharp, O'Brien, & Co.....	174
Electric Glow Company....	238	Strode & Co. (accepted)....	139

LONDON.—Accepted for building five new houses, for Duchy of Cornwall, in Courtenay-street, Kennington :—
Geo. Brittain £1,790

LONDON.—For cleansing, painting, and other works at the Vestry Hall, St. James's, Westminster :—

Bywaters	£545 0	Johnson & Manners	£469 10
Faulkner	497 0	Foxley	467 0
Shiers	495 0	H. & E. Lea	445 0
Knight	495 0	S. & S. Dunn*	430 0
Rowe	488 0		

* Accepted.

LONDON.—Accepted for new drainage and sanitary work, north and south sections, Cleveland-street Asylum, for the Managers of the Central London Sick Asylum District. Messrs. W. S. Cross & Kekwick, architects, 18, Outer Temple, Strand :—
Love & Co., Exeter-street £870

LONDON.—For alterations at the "Caledonian Tavern," Stoke Newington-road, London, N. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, London, E.C. Quantities supplied :—

F. Hart	£3,327	Thos. Osborn & Sons	£3,132
C. Dearing & Son	3,189	S. Goodall	3,099
J. C. Richards & Co.	3,150	Sheffield Bros.*	3,147
G. E. Todd & Co.	3,147		

* Accepted.

LONDON—For alterations and repairs at Nos. 283, 285, Walworth-road, S.E., for Mr. Mitchell. Mr. John Andrews, architect :—

Hawtrey	£1,486	Hollingsworth	£1,322
Buckeridge	1,423	Marsland	1,185

LONDON.—Accepted for sundry works in alterations, &c., to premises at High-street and Wellington-street, Camden Town, for the British Furniture Manufacturing Company. Mr. Percy L. Marks, architect :—
Callow & Wright £210

LONDON.—For alterations and repairs to be done at No. 13 Brownlow-street, Holborn, W.C., for the granting of a new lease by Sir H. C. D. Tichborne, Bart. Messrs. Thurgood & Martin, surveyors, 27, Chancery-lane, W.C. :—

F. R. Blaxton	£465	R. Bristow & Sons*	£464

* Accepted.

MARKET DEEPING.—For additions, &c., to schools, for the Maxey School Board. Mr. J. G. Stallebrass, architect, North-street, Peterborough :—

Pine & Letall	£485	Aspittle & Neaverson, Werrington (accepted)	£398
Hipwell	400		

NEWCASTLE-ON-TYNE.—For the erection of a factory at Ouseburn, Newcastle-on-Tyne, for Mr. J. Crowther. Mr. Harry W. Taylor, architect, Newcastle-on-Tyne :—

E. & T. George	£1,300	T. Hutchinson	£1,216
T. & R. Lamb	1,284	R. Harris & Son	1,198
J. B. Harris	1,252	J. W. Braithwaite	1,182
T. & W. Common	1,251	G. H. Mauchlen	1,160
R. I. Harbottle	1,227	T. & J. White	1,108

RAVENSTONEDALE.—For erecting the first portion of a new hotel at Ravenstonedale, for Mr. John Carver, J.P., of Ealing. Mr. R. Walker, architect, Windermere :—
Stable Block only.
Masonry.—T. Potter .....
Joinery.—J. C. Brunskill .....
Plumbing.—Brunskill & Nicholson ..... } About £700
Plastering.—Armstrong .....
Painting.—Brunskill .....

RAWTENSTALL (Lancs.).—For the execution of street works, Dean-lane, for the Corporation. Mr. A. W. Lawson, C.E. Municipal Offices, Rawtenstall. Quantities by the engineer :—
John Moore, Accrington £636 1 9

SNARESBROOK.—Accepted for addition to the "Eagle Hotel," Snaresbrook, E. Mr. Herbert Riches, architect and surveyor, 3, Crooked-lane, King William-street, London, E.C. :—
W. Mundy £240

ROTHESAY.—For the improvement and extension of the harbour, for the Harbour Trustees. Mr. J. R. Thomson, C.E., 5, High-street, Rothesay :—

J. Adam & Co.	£19,041 12 0	R. Brebner & Co.	£16 652 14 3
W. Farquharson	18 103 17 0	J. Goldie & Son	13 671 3 0
Kennedy Bros	16,645 19 11	Wm. Kennedy	13,395 15 1
Gillespie Bros.	16,426 2 9	George, Halliday, Rothesay*	13,257 3 10
A. M. Sporran & Co.	16,227 10 5		

* Accepted.

SHREWSBURY.—Accepted for the erection of technical school buildings, Radbrook, for the Governors of the Shropshire Technical School for Girls. Mr. C. R. Dalgleish, architect, Central-chambers, Wellington, Salop. Quantities by the architect :—
Building.—John Gethin £6,390 0 0
Plumbing.—Marston & Co. 683 10 4
Painting and Glazing.—J. H. Perks 202 10 0
[Exclusive of heating and ventilators.]
[All of Shrewsbury.]

SUTTON-IN-ASHFIELD.—For the erection of free library buildings, for the Free Library Committee. Mr. J. P. Adlington, architect, High Pavement, Sutton-in-Ashfield. Quantities by the architect :—

Wilson	£1,120 0 0	W. Bains	£937 10 0
J. Greenwood	1,025 0 0	H. Shaw, Sutton-in-Ashfield*	£891 8 3
J. F. Price	965 0 0		

* Accepted.

WELLINGTON (Salop).—For alterations to All Saints' Parish Church. Mr C. R. Dalgleish, architect, Wellington and Shrewsbury. Quantities by the architect :—

Treasure & Son	£1,875	H. Farmer	£1,790
Millington Bros.	1,870	A. Roper, Wellington*	1,772

* Accepted.

WREXHAM.—Accepted for the erection of a bridge over river Gwenfro, for the Rural District Council. Mr. J. Stracnan, district surveyor, Crispin Lodge, Wrexham :
Davies & Son, Rhostyllen, Wrexham £138

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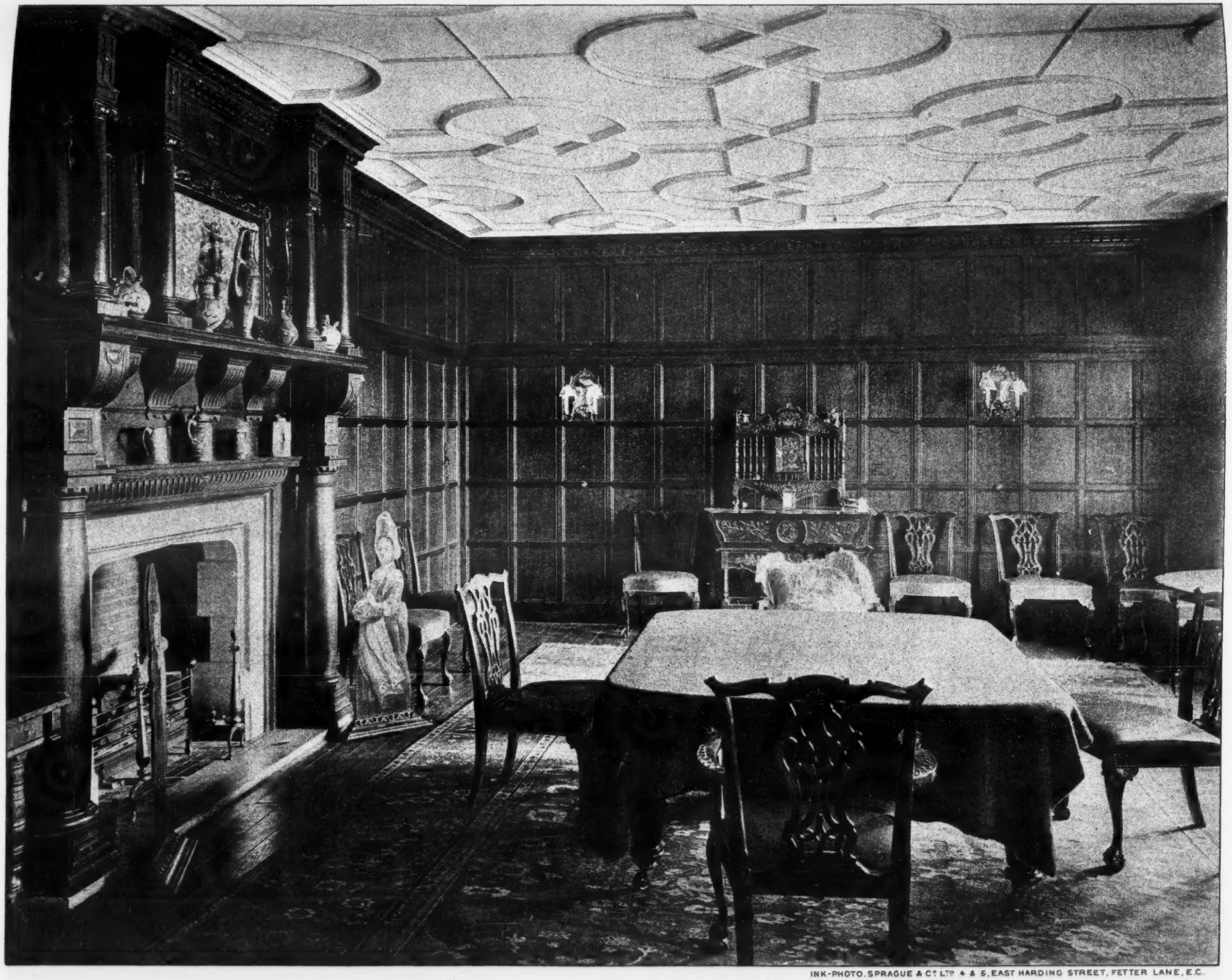

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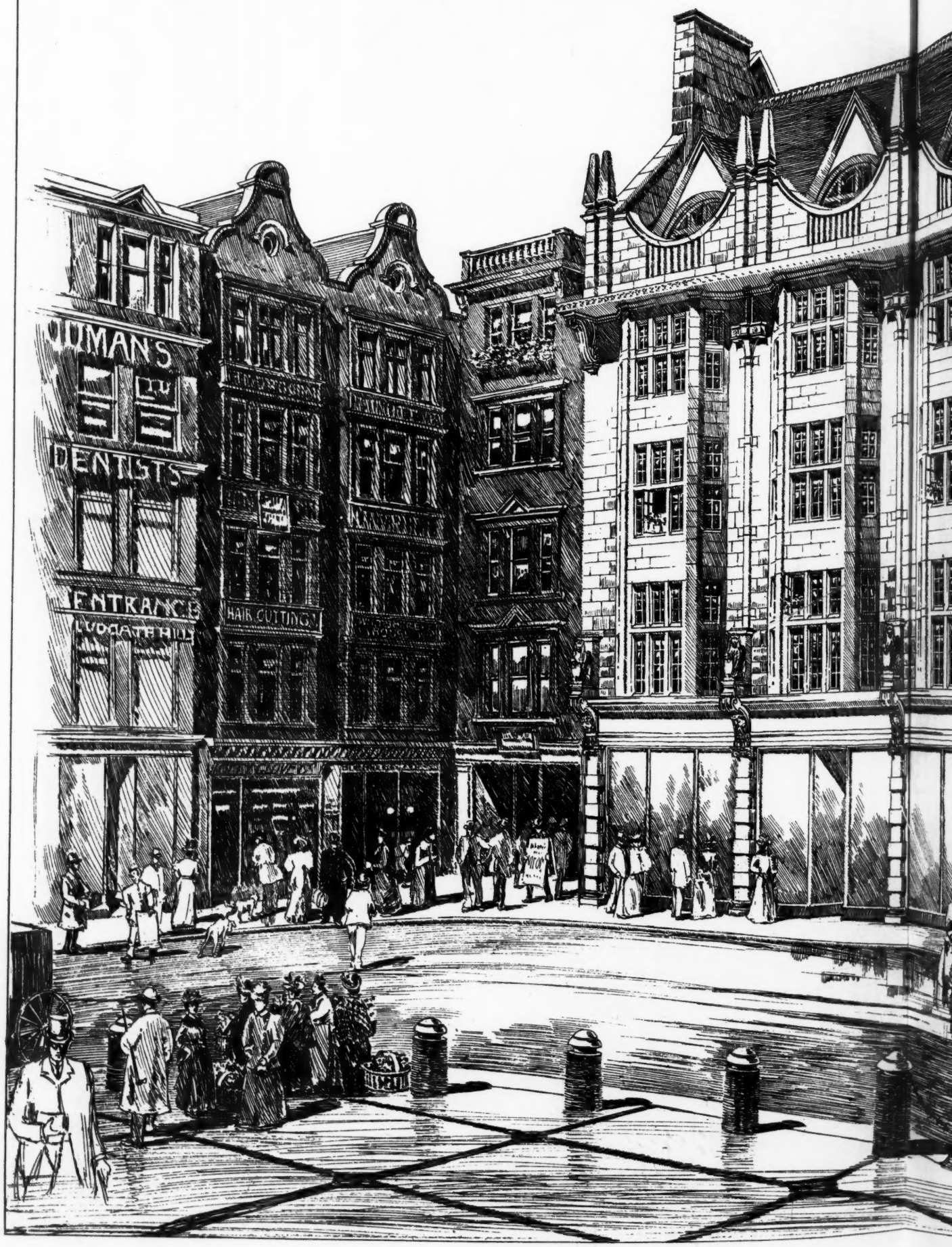

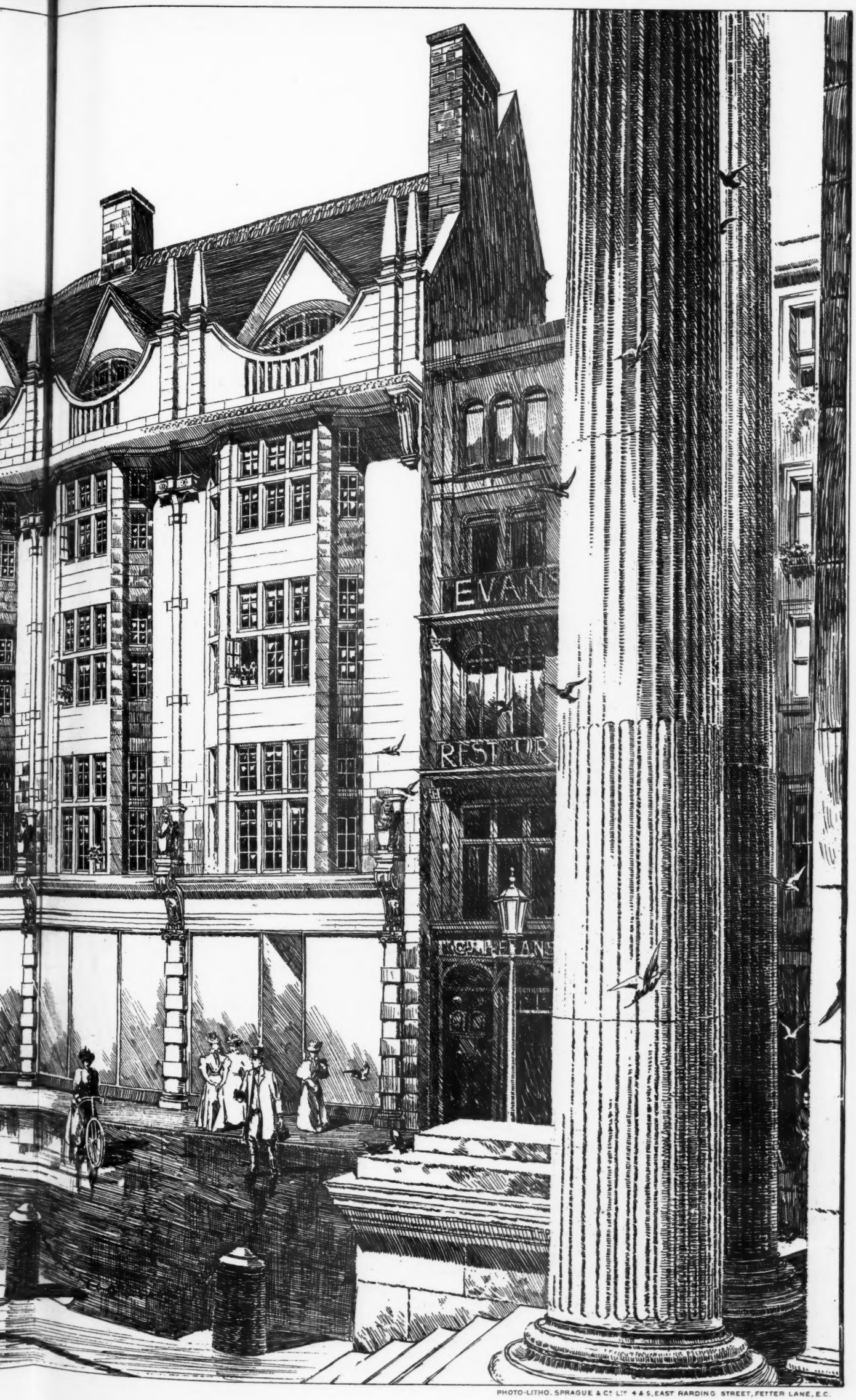

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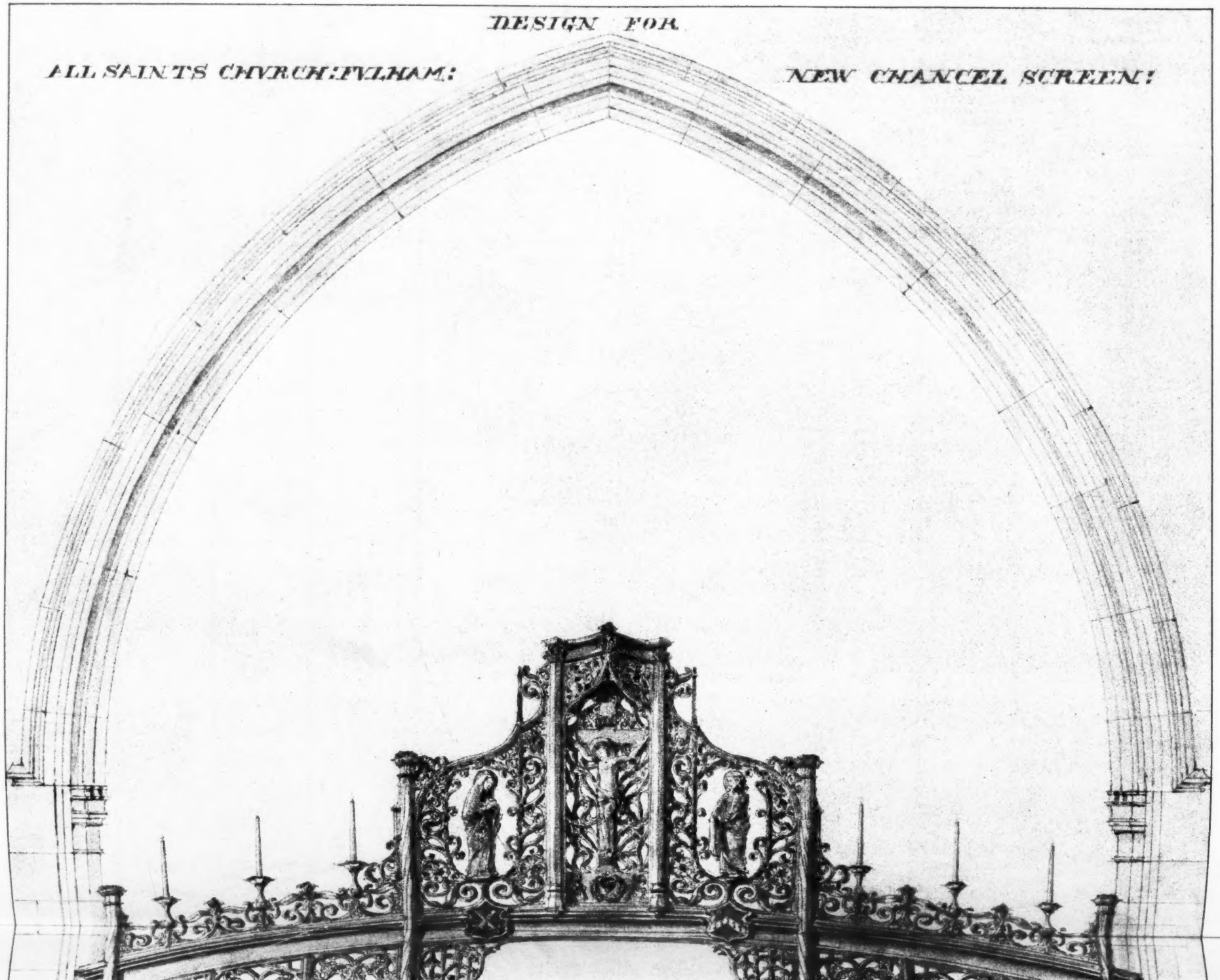

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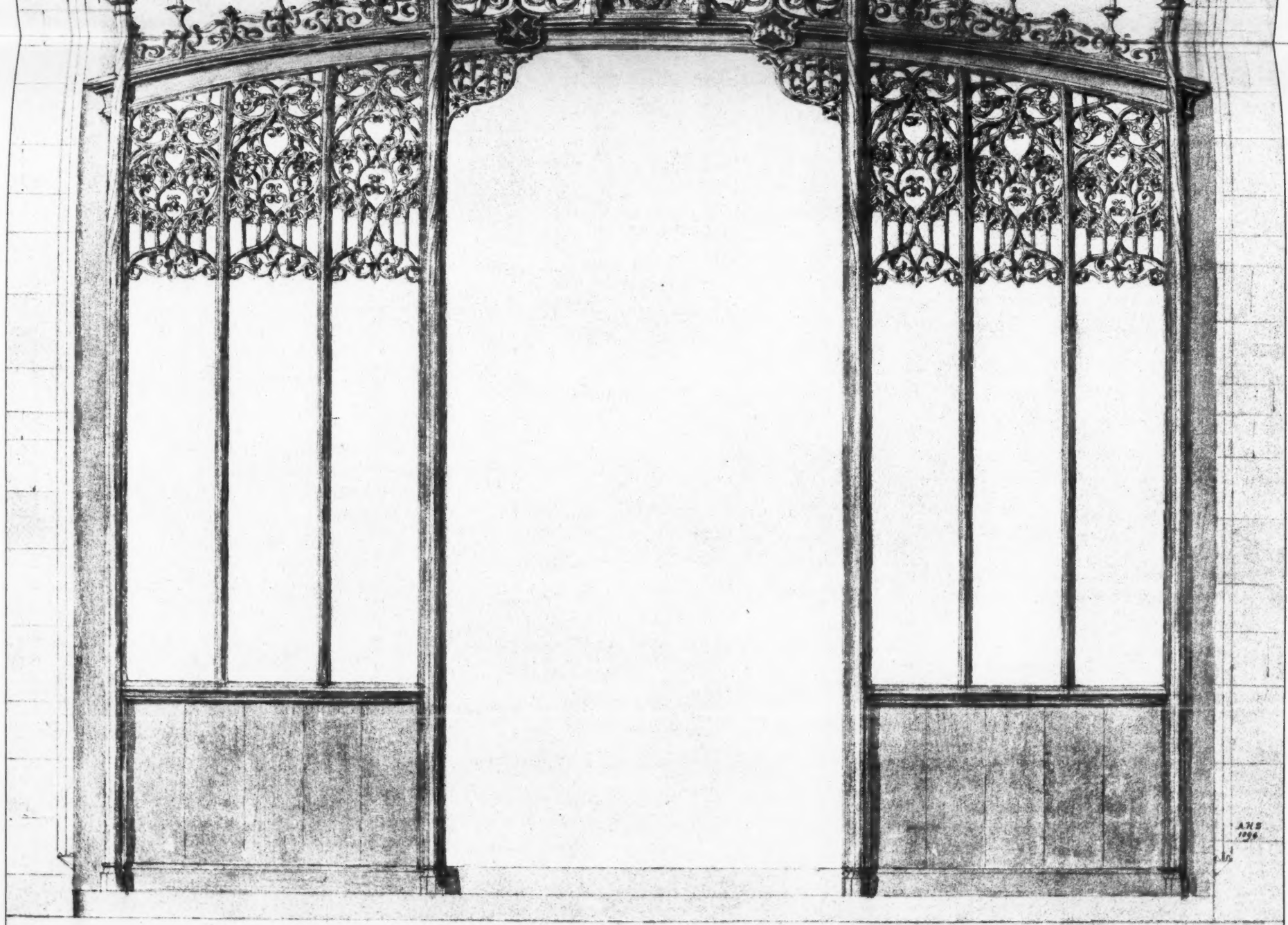

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